Annual Revision of the National Income and Product Accounts

- Annual Estimates, 1995–97
- Quarterly Estimates, 1995:1–1998:1

By Eugene P. Seskin

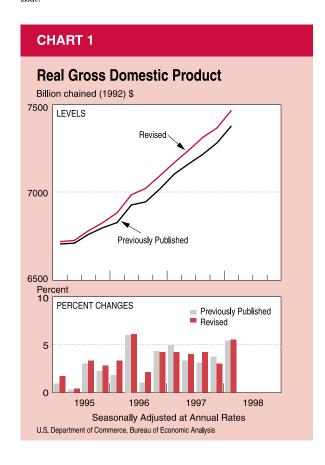
I N THIS issue of the Survey of Current Business, the Bureau of Economic Analysis (BEA) presents revised estimates of the national income and product accounts (NIPA'S) for 1995–97 and the first quarter of 1998. As is usual in annual NIPA revisions, these estimates incorporate source data that are more complete, more

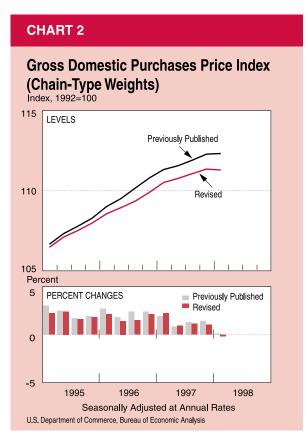
1. For information on the structure, definitions, presentation, and methodologies that underlie the NIPA's, see "A Guide to the NIPA's," SURVEY of CURRENT BUSINESS 78 (March 1998): 26–68.

The historical NIPA estimates are published in the two-volume National Income and Product Accounts of the United States, 1929-94; for order information, see the inside back cover of this issue. Note that the estimates for 1982-94 in that publication do not reflect the change in methodology that redefined dividend payments; see the tables beginning on page 119 in this issue.

detailed, and otherwise more appropriate than those that were previously incorporated. In addition, a number of methodological improvements have been introduced. An unusual feature of this annual revision is that one of the methodological improvements—a redefinition of dividend payments—resulted in revisions that were carried back to 1982 for some NIPA series (see the section "Changes in Methodology").

The first section of this article discusses the impact of the revisions on key NIPA measures of economic activity, and the second section provides a summary of the revisions and the major source data underlying them. The third section





describes the changes in the methodology used to prepare the estimates. Appendix A shows, in current dollars, the revised annual estimates and the revisions for the five summary accounts of the NIPA's. Tables presenting most of the revised monthly, quarterly, and annual NIPA estimates and the "advance" estimates for the second quarter of 1998 follow this article (a list of these tables is shown beginning on page 36). The tables showing the revised NIPA series for 1982–94 begin on page 119. Finally, the data back to 1929 for gross domestic product (GDP) and other major NIPA series are presented beginning on page 147.

Publication of the revised estimates and related estimates will continue in subsequent issues of the Survey. The September Survey will present "Updated Summary NIPA Methodologies," which lists the principal source data and estimating methods used in preparing the current-dollar and real estimates of GDP; reconciliation table 8.26, which shows the relationship between personal income in the NIPA's and adjusted gross income published by the Internal Revenue Service; and

revised estimates of fixed reproducible tangible wealth in the United States for 1995–97. The October Survey will present NIPA tables 3.15–3.17 (government expenditures by function), tables 3.18–3.20 (government sector reconciliation tables), and tables 9.1–9.6 (seasonally unadjusted estimates); it will also present revised real inventories, sales, and inventory-sales ratios for manufacturing and trade for 1995:1–1998:1 and revised estimates of State personal income that incorporate the results of this annual revision of the NIPA's. The November Survey will present revised and updated estimates of gross product by industry.

Impact of the Revisions

The revised estimates show that the U.S. economy grew at a somewhat faster rate than that shown by the previously published estimates (chart 1). From the fourth quarter of 1994 to the first quarter of 1998, the growth rate (average annual rate of change) for real GDP was revised up 0.3 percentage point to 3.4 percent (table 1).

Acknowledgments

Brent R. Moulton, Associate Director for National Income, Expenditures, and Wealth Accounts and Acting Chief of the National Income and Wealth Division, supervised the preparation of this year's annual revision of the national income and product accounts. Karl D. Galbraith, Chief of the Government Division, directed major parts of the revision. Robert P. Parker, Chief Statistician, also provided overall supervision. Brooks B. Robinson—assisted by Shelby W. Herman, Raymen G. LaBella, Charles S. Robinson, David B. Wasshausen, and Ernest D. Wilcox—coordinated and conducted the estimation and review process.

Eugene P. Seskin wrote the article describing the revision. Duane G. Hackman, Sherman Hammack, Kali K. Kong, Karl V. Rohrer, Teresa L. Weadock, and Mary D. Young prepared analyses and other review materials for both the article and the news release. Mary Carol Barron, Michael J. Boehm, and Sherman Hammack were responsible for developing and operating the computer systems used to compile, check, analyze, and report the final estimates.

Other BEA staff who made significant contributions to the revision are listed below.

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Investment—Carol E. Moylan. Structures—Wharton H. Berger, Velma P. Henry. Producers' durable equipment—Jeffrey W. Crawford, Nicole M. Spugnardi. Inventories—Leonard J. Loebach, Jennifer A. Ribarsky, Nadia F. Sadée. Investment prices—Leonard J. Loebach, Christine R. Pruitt, Nadia F. Sadée.

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State and local government—**Bruce E. Baker** and David F. Sullivan, Steven J. Andrews, Florence H. Campi, Richard L. Carlson, Janet H. Kmitch, Donald L. Peters.

Chain-type quantity and price measures—Christian Ehemann, Michael J. Boehm, Sherman Hammack, Michael N. Reynnells, John Sporing, Jr.

Income—Ralph H. Kozlow.

Personal income—Paul R. Lally, Thae S. Park, Toui Pomsouvan, James E. Rankin.

Employee compensation—Paul R. Lally. Wages and salaries—Bradley J. Payne. Other labor income—Monisha Primlani, Ernest D. Wilcox.

Business income—Kenneth A. Petrick. Corporate profits—Joyce Northwood, Jerry L. Stone. Nonfarm proprietors' income—Willie J. Abney.

Property income—George M. Smith. Farm output and income Frederick G. Kappler. Interest income—Mary Kate Schuster. Rental income of persons and housing output—Denise A. McBride.

Consumption of fixed capital—Shelby W. Herman. Private—Michael D. Glenn, Kurt Kunze, Phyllistine M. Barnes, Dennis R. Weikel. Government—D. Timothy Dobbs, Charles S. Robinson, Jennifer A. Bennett.

NIPA information—Marilyn E. Baker, Phyllistine M. Barnes, Virginia H. Mannering, Shirley D. Tisdale, Teresa L. Weadock.

Secretarial—Esther M. Carter, Katherine Dent, Angela P. Pointer, Colleen A. Ryan, Angela M. Tucker, Dorothy A. Wilson.

The upward revision was more than accounted for by upward revisions to personal consumption expenditures (PCE) for goods, to nonresidential fixed investment, and to government consumption expenditures and gross investment and by a downward revision to imports of goods and services; these revisions were partly offset by a downward revision to the change in business inventories. In the revised estimates, the major components contributing to growth were the same as those in the previous estimates: Increases in PCE, in gross private fixed investment, in exports of goods and services, and in State and local government consumption expenditures and gross investment more than offset an increase in imports of goods and services and a decrease in Federal Government consumption expenditures and gross investment.

The percent change from the preceding year for real GDP was revised up for all 3 years: From 2.0 percent to 2.3 percent for 1995, from 2.8 percent to 3.4 percent for 1996, and from 3.8 percent to 3.9 percent for 1997. On a fourth-quarter-to-fourth-quarter basis, the increase during 1995 was revised up from 1.6 percent to 2.1 percent; the increase during 1996 was revised up from 3.2 percent to 3.9

percent; and the increase during 1997 was revised up from 3.7 percent to 3.8 percent.

On the revised basis, the current economic expansion is slightly more vigorous. From the cyclical trough in the first quarter of 1991 to the first quarter of 1998, the average annual rate of change for real GDP was revised up 0.2 percentage point, from 2.9 percent to 3.1 percent.

In the revised estimates, the statistical discrepancy is smaller (in absolute value) for all 3 years.² As a percentage of GDP, the statistical discrepancy was unrevised at -0.4 percent for 1995, was revised from -0.8 percent to -0.4 percent for 1996, and was revised from -1.1 percent to -0.7 percent for 1997. The 1996 and 1997 revisions to the statistical discrepancy were primarily accounted for by upward revisions to GDP.

For a further discussion of the statistical discrepancy, see "The Statistical Discrepancy," SURVEY 77 (August 1997): 19.

Table 1.—Revisions to Real GDP and Its Major Components Over the Period 1994:IV-1998:I

[Billions of chained (1992) dollars, seasonally adjusted annual rates]

		Prev	iously publi	shed		Revised		Revision in change	
	1994:IV		Change,	1994:IV– 98:I		Change,	1994:IV- 98:I		Percent-
		1998:I	Dollar	Percent (annual rate)	1998:I	Dollar	Percent (annual rate)	Dollar	age points
Gross domestic product	6,688.6	7,375.7	687.1	3.1	7,464.7	776.1	3.4	89.0	0.3
Personal consumption expenditures Durable goods Nondurable goods Services	4,534.1 576.6 1,402.5 2,555.9	4,998.7 682.7 1,484.4 2,834.1	464.6 106.2 82.0 278.2	3.0 5.3 1.8 3.2	5,055.1 710.3 1,521.2 2,829.3	520.9 133.7 118.8 273.4	3.4 6.6 2.5 3.2	56.4 27.5 36.8 -4.9	. 4 1.3 .7 0
Gross private domestic investment Fixed investment Nonresidential Structures Producers' durable equipment Residential Change in business inventories	1,003.0 938.5 672.9 175.0 499.1 265.9 63.6	1,318.3 1,202.2 909.2 194.1 726.1 297.7 105.7	315.3 263.8 236.3 19.0 227.0 31.8 42.2	8.8 7.9 9.7 3.2 12.2 3.5	1,321.8 1,224.9 931.9 203.1 738.8 298.5 91.4	318.8 286.5 259.0 28.1 239.7 32.6 27.8	8.9 8.5 10.5 4.7 12.8 3.6	3.5 22.7 22.6 9.1 12.7 .8 -14.3	.1 .6 .8 1.5 .6
Net exports of goods and services Exports Goods Services Imports Goods Services	-105.9 747.3 540.4 207.5 853.2 720.4 133.2	- 208.4 989.6 753.5 241.5 1,198.0 1,030.6 169.6	- 102.5 242.3 213.1 34.0 344.8 310.2 36.4	9.0 10.8 4.8 11.0 11.6 7.7	- 198.5 991.9 748.5 247.8 1,190.4 1,021.0 171.3	- 92.7 244.5 208.1 40.3 337.2 300.6 38.1	9.1 10.5 5.6 10.8 11.3 8.0	9.9 2.3 -5.0 6.3 -7.6 -9.6 1.7	.1 3 .8 2 3
Government consumption expenditures and gross investment Federal	1,255.8 481.7 329.6 151.7 774.1	1,264.1 444.3 295.5 148.2 819.9	8.3 -37.4 -34.1 -3.5 45.8	.2 -2.5 -3.3 7 1.8	1,283.0 446.1 293.3 151.9 837.1	27.3 -35.6 -36.3 .2 63.0	.7 -2.3 -3.5 0 2.4	19.0 1.9 -2.2 3.7 17.2	. 5 .2 2 .7 .6
Addenda: Gross domestic purchases Final sales of domestic product Gross national product Gross domestic income	6,791.3 6,624.8 6,691.2 6,693.7	7,563.5 7,266.4 7,362.6 7,462.1	772.2 641.6 671.3 768.4	3.4 2.9 3.0 3.4	7,644.9 7,372.5 7,455.2 7,512.9	853.6 747.6 764.0 896.2	3.7 3.3 3.4 3.6	81.4 106.0 92.6 127.8	.3 .4 .4 .2

^{2.} The statistical discrepancy is the difference between current-dollar $_{\mathrm{GDP}}$ and current-dollar gross domestic income ($_{\mathrm{GDI}}$), which measures the costs incurred and the incomes earned in the production of $_{\mathrm{GDP}}$.

BEA continues to conduct research to identify and, when possible, to reduce the statistical discrepancy. For example, BEA is researching the extent to which capital gains are included in the source data on wages and salaries and not deducted in the calculation of corporate profits and the extent to which foreign source income is not totally removed from domestic corporate profits. The results of this research will be reported in future issues of the Survey and will be reflected in subsequent annual and comprehensive revisions of the NIPA'S.

The revised estimates show a somewhat slower rate of increase in prices than that shown by the previously published estimates (chart 2). From the fourth quarter of 1994 to the first quarter of 1998, the average annual rates of increase in the price indexes for both gross domestic purchases and GDP were revised down 0.3 percentage point to 1.5 percent and to 1.8 percent, respectively (table 2). The percent change from the preceding year for the price index for gross domestic purchases was revised down from 2.5 percent to 2.3 percent for 1995, from 2.2 percent to 1.8 percent for 1996, and from 1.7 percent to 1.6 percent for 1997. The revisions to the price index for GDP were similar. Most of the downward revisions to prices resulted from methodological changes (see the section "Changes in Methodology").

The revised estimates of gross (national) saving as a percentage of gross national product are similar to the previously published estimates. However, within gross saving, personal saving (and the personal saving rate) was revised down substantially, and undistributed corporate profits and the State and local government surplus or deficit were revised up substantially

Summary of the Revisions

The revisions reflect the incorporation of new and revised source data for the current-dollar estimates and for the prices and quantities used to prepare the chained-dollar estimates; they also reflect the introduction of changes in methodology. This section describes the revisions to the annual current-dollar, price, and chained-dollar estimates, and then it briefly describes the revisions to the quarterly estimates.

Annual current-dollar estimates

Table 3 summarizes the current-dollar revisions to major NIPA components. It provides a guide to the major revisions by identifying the subcomponent series for which revisions were \$2.0 billion or more for any of the years covered by this annual revision and by listing the major source data that underlie the revised estimates. Note that the incorporation of new and revised source data usually results in a revision to the level of an estimate not only for the year into which they are directly incorporated, but also for subsequent years.

This annual revision incorporated data from the following primary Federal statistical sources: Bureau of the Census annual surveys of State and local governments (for fiscal years 1995–97), of manufacturing, of merchant wholesale trade, of retail trade (for 1995 and 1996), and of services (for 1995–97); Census Bureau surveys of the value of construction put in place (for 1996–97);

Text continues on page 15.

Table 2.—Revisions to Chain-Type Price Indexes Over the Period 1994:IV-1998:I

[Index numbers (1992=100), seasonally adjusted]

		Previously	published	Revis	sed	
	1994:IV	1998:I	Percent change, 1994:IV- 1998:I (annual rate)	1998:l	Percent change, 1994:IV- 1998:I (annual rate)	Revision in percent change (percentage points)
Gross domestic product	106.07	113.40	2.1	112.33	1.8	-0.3
Less: Exports of goods and services Plus: Imports of goods and services	102.11	97.47	-1.4	98.13	-1.2	.2
	100.72	91.49	-2.9	92.05	-2.7	.2
Equals: Gross domestic purchases	105.88	112.32	1.8	111.29	1.5	3
Personal consumption expenditures Durable goods Nondurable goods Services	106.31	113.39	2.0	112.30	1.7	3
	103.94	100.72	-1.0	99.27	-1.4	4
	103.64	109.24	1.6	107.35	1.1	5
	108.27	118.51	2.8	118.00	2.7	1
Gross private domestic investment Fixed investment Nonresidential Structures Producers' durable equipment Residential Change in business inventories	104.04	104.06	0	103.81	-11	1
	102.12	98.78	-1.0	98.90	-1.0	0
	109.00	120.45	3.1	120.58	3.2	.1
	99.46	91.49	-2.5	91.57	-2.5	0
	108.83	118.51	2.7	117.21	2.3	4
Government consumption expenditures and gross investment	105.75	115.76	2.8	114.17	2.4	4
	105.53	116.07	3.0	114.66	2.6	4
	104.31	114.98	3.0	113.04	2.5	5
	108.42	118.69	2.8	118.46	2.8	0
	105.89	115.58	2.7	113.89	2.3	4
Addenda: Final sales of domestic product Gross national product	106.09	113.55	2.1	112.45	1.8	3
	106.05	113.34	2.1	112.28	1.8	3

Table 3.—NIPA Revisions: Selected Component Detail and Major Source Data

Table 3.—NIF	'A Revi	sions: S	selected	Compo	onent Detail and Major Source Data
		Billions of	of dollars		
NIPA component	Re	vision in le	evel	Revised 1997	Major source data incorporated ¹
	1995	1996	1997	level	
Gross domestic product	4.2	25.6	31.0	8,110.9	
Personal consumption expenditures	-3.8	8.1	7.9	5,493.7	
Goods	.3	13.3	22.3	2,273.6	
Of which: Motor vehicles and parts	.6	3.5	6.1	269.5	
Of which: Net purchases of used autos	.6	.5	3.2	57.3	Revised stock of autos held by consumers from trade sources for 1995 and 1996; new stock
Tot paradoca of accordance	.0	.0	0.2	07.0	data for 1997; Census Bureau annual retail trade survey data on sales of goods and gross margin of used car dealers for 1996; revised Census Bureau monthly retail sales data for 1997.
Other motor vehicles	.3	2.6	3.0	87.2	Trucks: Revised Census Bureau annual survey of manufactures (ASM) commodity shipments data for 1995; new ASM shipments data for 1996; trade source unit sales and prices for new trucks for 1997; BEA estimates for used truck transactions from a variety of data sources for 1996 and 1997; revised tabulations of exports and imports for 1995–97.
Goods other than motor vehicles and parts Of which:	3	9.8	16.2	2,004.1	•
Furniture and household equipment	1.0	3.4	4.0	271.4	Revised Census Bureau annual retail trade survey (ARTS) sales data for 1995; new ARTS
Other durable goods	.8	1.9	3.6	132.1	data for 1996; revised Census Bureau monthly sales data for 1997.
Food	-3.3	-1.1	4.5	780.9	
Services	-4.2	-5.2	-14.4	3,220.1	
Housing Of which:	.1	.2	3.3	829.8	
Of which: Owner-occupied nonfarm dwellings—space rent Household operation Of which:	.2 -3.8	.8 -1.4	3.5 5	590.3 327.3	Census Bureau current population survey data on housing units for 1997.
Water and other sanitary services	9	-2.2	-1.9	41.1	Revised Census Bureau <i>Government Finances (GF)</i> tabulations on municipal water and sewerage systems and refuse collection for FY 1996 for 1995 and 1996; new <i>GF</i> tabulations for FY 1997 for 1996 and 1997.
Telephone and telegraph	-2.5	.2	0	104.2	Revised Census Bureau annual survey of communications services (ASCS) data on residential and nonresidential long-distance service revenue for 1995; new ASCS data for 1996; trade source data on cellular telephone revenue for 1997.
Transportation	0	3.9	4.0	240.3	course data on contain telephone revenue for recor.
User-operated transportation	0	4.1	4.3	192.2	
Of which: Repair, greasing, washing, parking, storage, rental, and leasing.	0	3.5	2.4	154.9	Revised trade source data on auto repair at franchised car dealers for 1995; new trade source data for 1996; revised Census Bureau service annual survey (SAS) data for 1995 and 1996; new SAS data for 1997; trade source data on motor vehicle personal lease registrations for 1995–97.
Medical care	3.4	-1.3	-10.8	843.4	
Of which: Hospitals	.2	-3.4	-8.4	334.3	
Of which: Nonprofit	-1.5	-4.4	-8.3	220.0	Trade source data on expenses for FY 1996 for 1995 and 1996; trade source data on commu-
·					nity hospital expenses for 1997.
Health insurance	4.3	1.1	-3.4	58.0	Revised Health Care Financing Administration (HCFA) data on net cost of health insurance for 1995; preliminary HCFA data for 1996; and BLS data on employer costs for health insurance for 1996–98 (March).
Other services Of which:	-3.9	-6.6	-10.4	979.3	
Personal business Of which:	3	-4.9	-5.9	459.1	
Services furnished without payment by financial intermediaries except life insurance carriers and private noninsured pension plans.	7	-2.4	3.7	190.9	Revised IRS tabulations of corporate tax return data for 1995; new IRS tabulations for 1996; Federal Deposit Insurance Corporation data, National Credit Union Administration data, Office of Thrift Supervision data, trade source data on investment companies for 1997.
Expense of handling life insurance	.3	-2.5	-8.0	80.2	
Legal services	.3	.8	-2.0	55.9	Revised Census Bureau service annual survey (SAS) data for 1995 and 1996; new SAS data for 1997.
Recreation	3	-3.1	-6.9	200.2	101 1997.
Of which: Commercial participant amusements	2	-1.5	-4.0	49.1	Revised Census Bureau service annual survey (SAS) data for 1995 and 1996; trade source data on casino gambling for 1996; new SAS data for 1997; State gaming commissions data
Other	1	-1.6	-2.9	151.1	on casino gambling for 1997. Revised Census Bureau Government Finances (GF) tabulations on lotteries, spectator sports, and high school recreation for FY 1996 for 1995 and 1996; new GF tabulations for FY 1997 for 1996 and 1997; revised Census Bureau service annual survey (SAS) data for 1995 and 1996; new SAS data for 1997.
Fixed investment	4.4	9.1	14.5	1,188.6	
Nonresidential structures	.7	1.7	10.0	240.2	
Of which: Nonresidential buildings, excluding farm	0	1.0	2.5	173.3	
Of which: Commercial structures	0	1.2	2.1	87.0	Revised Census Bureau value of construction put in place data for 1996 and 1997.
Mining exploration, shafts, and wells	0	2.0	6.8	22.7	The more serious bureau value of contenuous put in place data for 1990 and 1997.
Of which: Petroleum and natural gas	0	1.7	6.4	20.8	Trade source data on drilling costs for 1996; revised trade source data on footage drilled for 1995–97.
Nonresidential producers' durable equipment	4.0	4.8	3.8	620.5	

Table 3.—NIPA Revisions: Selected Component Detail and Major Source Data—Continued

		Billions of	of dollars		
NIPA component	Re	vision in le	vel	Revised	Major source data incorporated ¹
·	1995	1996	1997	1997 level	, .
Information processing and related equipment	.2	-5.7	-5.7	206.6	
Of which: Computers and peripheral equipment	7	-4.3	-4.3	81.1	Revised Census Bureau annual survey of manufactures (ASM) product shipments data for 1995; new ASM data for 1996; revised Census Bureau monthly industry shipments data for
Industrial equipment	2.3	4.2	3.8	138.6	1997; revised BEA tabulations of exports and imports for 1995–97.
Transportation and related equipment	.5	2.7	2.0	152.0	1997; revised BEA tabulations of exports and imports for 1995–97.
Of which: Trucks, buses, and truck trailers	.3	2.4	4.5	79.9	Revised Census Bureau annual survey of manufactures (ASM) product shipments data for 1995; new ASM data for 1996; revised tabulations of exports and imports for 1995–96; trade
Autos	7	5	-2.7	45.7	source unit sales and prices for new trucks for 1997.
Other equipment	1.3	3.4	4.1	128.3	model year 1997.
Residential fixed investment	3 3	2.6 2.6	.7 .6	327.9 319.9	
Of which: New	2	2.7	1.6	282.7	
Of which:	0	2.6	.5		BLS consumer expenditures survey and Census Bureau landlord survey data for 1996 and
Improvements	U	2.0	.5	81.5	1997.
Change in business inventories	.6	6.2	-1.0	67.4	
FarmNonfarm	-1.4 2.0	4.7 1.5	-2.4 1.4	4.3 63.1	Revised USDA data for 1995 and 1996; new USDA data for 1997. Revised information on accounting methods used for inventory reporting in the annual survey of manufactures (ASM), in the annual trade surveys (ATS), and in the annual retail trade surveys (ATS).
Change in book value	.6	.5	1.6	52.1	veys (ARTS) for 1995 and 1996; revised data on the cost of inventories for 1995–97.
Of which: Manufacturing	2.6	.6	1	19.0	Revised Census Bureau annual survey of manufactures (ASM) inventory book value data for
Retail trade	1.2	2.9	4	5.5	1995; new ASM data for 1996; revised Census Bureau monthly inventory data for 1997. Revised Census Bureau annual retail trade survey (ARTS) inventory book value data for 1995; new ARTS data for 1996; revised BEA estimates based on inventory data from trade sources for 1997; revised Census Bureau monthly inventory data for 1997.
Of which: Automotive	.2	4.4	.6	.1	Revised Census Bureau annual retail trade survey (ARTS) inventory book value data for 1995; new ARTS data for 1996; revised BEA estimates based on inventory data from trade
Other than manufacturing and trade	-3.7	-3.4	.7	8.0	sources for 1997. Revised IRS tabulations of inventory book value data from corporate tax returns for 1995; new IRS tabulations of inventory book value data from sole proprietorship, partnership, and corporate tax returns for 1996; Census Bureau <i>Quarterly Financial Report</i> data for mining for 1997.
Net exports of goods and services	2.1	3.6	7.7	-93.4	Revised BEA balance of payments accounts estimates for 1995–97.
Exports	1.0	2.9	8.3	965.4	
Goods Services	1 1.0	.8 2.2	2.0 6.3	688.3 277.1	
Imports	-1.2 .1	7 0	.7 2	1,058.8 888.3	
Services	-1.2	7	.8	170.4	
Government consumption expenditures and gross investment.	.9	-1.5	1.9	1,454.6	
Federal consumption expenditures and gross investment Of which:	5	-1.6	-3.6	520.2	
National defense	2	-1.8	-4.3	346.0	
Consumption expenditures	4	-1.6	-4.6	306.3	
Services	4	3	-4.7	278.2	
Of which: Compensation of general government employees, except force-account construction. Of which:	3	-1.4	-2.6	133.3	
Military	6	-1.5	-2.5	84.2	Revised FY 1997 Federal budget data for 1996 and 1997; preliminary FY 1998 Federal budget data for 1997.
State and local consumption expenditures and gross investment.	1.3	.1	5.5	934.4	
Consumption expenditures	-3.4	-6.2	-4.1	758.8	
Services	-3.2	-6.1	-3.6	662.9	
Of which: Compensation of general government employees, except force-account construction.	-1.5	-4.3	-3.9	566.7	insurance for 1995 and 1996; new BLS tabulations for 1997; revised Census Bureau <i>Government Finances (GF)</i> tabulations of retirement plans for FY 1995 and FY 1996 for 1995
Other services	-1.9	-2.6	-1.2	35.7	and 1996; and new <i>GF</i> tabulations for FY 1997 for 1996 and 1997. Revised Census Bureau <i>Government Finances (GF)</i> tabulations for FY 1995 and FY 1996 for 1995 and 1996; new <i>GF</i> tabulations for FY 1997 for 1996 and 1997.

Table 3.—NIPA Revisions: Selected Component Detail and Major Source Data—Continued

		Billions	of dollars		
NIPA component	Re	vision in le	evel	Revised	Major source data incorporated ¹
	1995	1996	1997	1997 level	
Gross investment	4.7 2.1	6.4 2.4	9.6 4.0	175.6 142.4	Revised Census Bureau <i>Government Finances (GF)</i> tabulations for FY 1995 and FY 1996 for 1995 and 1996; new <i>GF</i> tabulations for FY 1997 for 1996 and 1997; revised Census Bureau
Equipment	2.6	3.9	5.6	33.2	value of construction put in place data for 1995–97. Revised Census Bureau <i>Government Finances (GF)</i> tabulations for FY 1995 and FY 1996 for 1995 and 1996; new <i>GF</i> tabulations for FY 1997 for 1996 and 1997.
Gross domestic product	4.2	25.6	31.0	8,110.9	
Plus: Net receipts of factor income	12.3	10.7	11.8	-8.0	Revised BEA balance of payments accounts estimates for 1995–97.
Receipts of factor income from the rest of the world	2.4	1.2	3.3	265.5	
Payments of factor income to the rest of the world	-9.9	-9.5	-8.5	273.5	
Equals: Gross national product	16.5	36.3	42.8	8,102.9	
Less: Statistical discrepancy 2	1.7	27.7	30.2	-55.8	
Equals: Gross national income	14.7	8.6	12.5	8,158.7	
Compensation of employees	-6.5	-17.9	-16.4	4,687.2	
Wage and salary accruals	7 -1.0 3	6.8 -1.4 -1.7	15.0 12.4 –1.1	3,893.6 3,889.8 664.2	
Federal	2	-1.6	-3.3	177.5	Revised postal service data for 1995; new Postal Service data 1996 and 1997; revised Office of Personnel Management data for 1995 and 1996; revised FY 1996 and FY 1997 Federal
State and local	0	2	2.2	486.7	Budget data for 1995 and 1996; preliminary FY 1998 Federal Budget data for 1997. Revised BLS tabulations of wages and salaries of employees covered by State unemployment.
Private	7	.3	13.6	3,225.7	insurance for 1995 and 1996; new BLS tabulations for 1997. Revised BLS tabulations of wage and salaries of employees covered by State unemployment insurance for 1995 and 1996; new BLS tabulations for 1997; revised USDA data on farm wages for 1995 and 1996; new USDA data for 1997; new balance of payments data on rest-
Wage accruals less disbursements	.3	8.2	2.5	3.7	of-the-world wage and salary accruals for 1995–97.
Supplements to wages and salaries Employer contributions for social insurance	-5.9 7	-24.7 -4.0	-31.3 -7.7	793.7 400.7	,
Of which: State and local social insurance funds	-1.0	-3.9	-6.8	56.7	Revised Census Bureau <i>Government Finances (GF)</i> tabulations for FY 1995 and FY 1996 for 1995 and 1996; new <i>GF</i> tabulations for FY 1997 for 1996 and 1997.
Other labor income	-5.2	-20.6	-23.7	392.9	
Of which: Pension and profit-sharing plans	-4.8	-16.2		80.6	DOL tabulations of data on employer contributions to pension and profit-sharing plans for 1995; DOL pension and wage cost per hour data for 1995–97. IRS tabulations of corporate tax re-
Group health and life insurance	4	-5.9		268.0	turn data on pension, profit sharing, stock, annuity for 1995 and 1996. BLS data on employer costs for health and life insurance for 1996–98 (March).
Proprietors' income with IVA and CCAdj	9	7.4	6.7	551.2	
Farm	-1.0	1.7	-5.2	35.5	
Of which: Proprietors' income with IVA	-1.1	1.7	-5.3	43.0	Revised USDA data for 1995 and 1996; new USDA data for 1997; revised IRS tabulations of corporate tax return data for 1995; new IRS tabulations for 1996.
Nonfarm	.1	5.7	12.0	515.8	
Of which: Proprietors' income	3.9 -2.6	6.3 2	10.8 1.0	485.3 29.9	New IRS tabulations of sole proprietorship and partnership tax return data for 1996. Capital consumption allowances: New IRS tabulations of sole proprietorship and partnership tax return data for 1996. Consumption of fixed capital: Revised BEA fixed investment and price estimates for 1995–97.
Rental income of persons with CCAdj	.9	3.9	10.3	158.2	
Of which: Rental income of persons	2.0	5.1	11.3	208.6	Revised Federal Reserve Board mortgage debt outstanding data for 1995–97; revised USDA data on rent on farms owned by nonoperator landlords for 1995 and 1996; new USDA data for 1997; BLS consumer expenditure survey data on maintenance and repairs for 1996 and 1997; trade source data on property insurance for 1996; Census Bureau current population survey data on owner- and tenant-occupied units for 1997.
Corporate profits with IVA and CCAdj	22.4	14.5	12.9	817.9	
Profits before tax	13.0	3.6	4.6	734.4	
Of which: Construction Manufacturing Transportation Electric, gas, and sanitary services Retail trade Finance, insurance, and real estate Financial Nonfinancial Rest of the world	4 1.1 1 6 1.5 8.3 7.0 1.3 2.8	2.2 -11.0 3.1 -1.9 3.3 8.9 7.2 1.7	-2.3 -11.1 1.5 -2.1 5.5 12.9 10.5 2.4	18.0 212.2 17.0 39.5 60.1 138.1 130.0 8.1 99.0	regulatory agency and public financial reports profits data for 1997. Revised BEA balance of payments accounts estimates for 1995–97.
Receipts from the rest of the world	3.7 .9 1.7	1.8 1.4 1.3	3.6 3.1 1.4	149.5 50.4 6.9	

Table 3.—NIPA Revisions: Selected Component Detail and Major Source Data—Continued

		Billions	of dollars		
NIPA component	Re	vision in le	evel	Revised 1997	Major source data incorporated ¹
	1995	1996	1997	level	
CCAdj	7.8	9.6	6.9	76.6	Capital consumption allowances: Revised IRS tabulations of corporate tax return data for 1995; new IRS tabulations for 1996. Consumption of fixed capital: Revised BEA fixed investment and price estimates for 1995–97.
Net interest ³	-4.5	-6.5	-16.7	432.0	
Monetary interest: Monetary interest paid Domestic business Of which:	2.2 4.7	-17.4 -13.2		2,038.1 1,444.9	Revised IRS tabulations of corporate tax return data for 1995; new IRS tabulations for 1996; new IRS tabulations of sole proprietorship and partnership tax return data for 1996; revised Federal Reserve Board flow-of-funds accounts data for 1995–97; revised USDA data on interest paid by farmers for 1995 and 1996; new USDA data for 1997; revised trade source data on investment companies, Federal Deposit Insurance Corporation data, Office of Thrift Supervision data, and Housing and Urban Development survey of mortgage lending activity data for 1997.
Financial corporations Nonfinancial corporations Sole proprietorships and partnerships Other private business Persons Government Monetary interest received Domestic business Of which:	5.8 .8 0 -1.9 9 3 2.2 18.2	-31.1 13.3 7.9 -3.4 -1.6 -2.0 -17.4 -2.2	6.7 –2.3	615.1 375.3 137.8 316.7 161.5 316.9 2,038.1 1,373.6	Revised Federal Reserve Board consumer credit data for 1995–97. Revised Census Bureau <i>Government Finances (GF)</i> tabulations for FY 1995 and FY 1996 for 1995 and 1996; new <i>GF</i> tabulations for FY 1997 for 1996 and 1997. Revised IRS tabulations of corporate tax return data for 1995; new IRS tabulations for 1996; new IRS tabulations of sole proprietorship and partnership tax return data for 1996; revised Federal Reserve Board flow-of-funds accounts data for 1997; Federal Deposit Insurance Corporation data and Office of Thrift Supervision data for 1997.
Financial corporations Nonfinancial corporations Financial sole proprietorships and partnerships Persons Government Federal State and local Rest of the world From business	20.8 -2.8 0 -13.3 8.2 1 8.3 -10.9 -6.9	5.7 -10.2 6.1 -2.0 8.1 -11.2 -7.2		1,092.7 237.0 43.8 311.8 151.1 20.9 130.2 201.6 114.2	Revised FY 1997 Federal budget data for 1996 and 1997; preliminary FY 1998 Federal budget data for 1997; revised BEA balance of payments accounts estimates for 1995–97. Revised Census Bureau <i>Government Finances (GF)</i> tabulations for FY 1995 and FY 1996 for 1995 and 1996; new <i>GF</i> tabulations for FY 1997 for 1996 and 1997. Revised BEA balance of payments accounts estimates for 1995–97.
From Federal Government	-3.9 .1 .1 .1 7 7	-3.9 -5.1 -3.7 -5.1 -6.1 -2.4 -3.7		87.5 541.2 244.6 541.2 435.5 190.9 244.6	Revised Federal Reserve Board (FRB) flow-of-funds accounts data on private noninsured pension plans for 1995–97; trade source data on life insurance companies for 1996. Revised Federal Reserve Board (FRB) flow-of-funds accounts assets data for 1995 and 1996; new FRB data for 1997; Federal Deposit Insurance Corporation data for 1997.
pension plans.	.1	-3.7	1.5	244.0	
Consumption of fixed capital	4.0	1.9	3.9	871.8	
Of which: Private Of which: Corporate Capital consumption allowances Corporate	4.0 2.2 8.0 10.0	1.6 3 9.8 9.3	3.3 1.7 10.1 8.6	720.2 477.3 760.5 554.0	
Noncorporate	-2.0	.5	1.4	206.5	New IRS tabulations of sole proprietorship and partnership tax return data for 1996; revised BEA fixed investment estimates for 1995–97.
Less: CCAdj Corporate Noncorporate Of which: Nonfarm proprietors' income Government	4.0 7.8 -3.7 -2.6 0	8.3 9.6 -1.4 2	6.8 6.9 0 1.0 .6	40.4 76.6 -36.2 29.9 151.6	CCAdj is calculated as consumption of fixed capital less capital consumption allowances.
Nonfactor incomes	8	5.2	11.8	640.4	
Of which: Indirect business tax and nontax liability Federal State and local	-1.6 -1.0 6	1.6 -1.3 3.0	7.8 2.5 5.3	627.2 93.8 533.4	
Less: Subsidies less current surplus of government enterprises.	1	-3.4	-4.2	21.9	quantity tax to to the data to 1000 and 1000, from tax to to the data to 1007.

Text continues from page 10.

Federal Government budget data (for fiscal years 1996-98); Internal Revenue Service (IRS) tabulations of income tax returns for corporations (for 1995 and 1996) and for sole proprietorships and partnerships (for 1996); Bureau of Labor Statistics (BLS) tabulations of wages and salaries of

employees covered by State unemployment insurance (for 1997); U.S. Department of Agriculture farm statistics (for 1995-97); BEA balance of payments accounts (for 1995-97); and BEA capital stock statistics (for 1995-97).

Gross domestic product (GDP).—The level of current-dollar GDP was revised up for all 3 years:

Table 3.—NIPA Revisions: Selected Component Detail and Major Source Data—Continued

		Billions of	of dollars		
NIPA component	Re	vision in le	vel	Revised	Major source data incorporated ¹
	1995	1996	1997	1997 level	
Of which: Federal	-1.6	-5.0	-5.9	32.5	Revised FY 1997 Federal budget data for 1996 and 1997; preliminary FY 1998 Federal budget data for 1997; new FY 1995–97 Postal Service financial data for 1995–97 For consumption of enterprise fixed capital: Perpetual-inventory calculations at current cost based on gross investment and on investment prices for 1995–97. See also entries for gross investment.
Addenda: Gross domestic income	2.5	-2.1	.8	8,166.7	
National income	11.4	1.5	-3.2	6,646.5	See entries under "gross national income."
Personal income	-78.7 -6.2	-70.0 -10.7	-89.9 5.7	6,784.0 4,992.1	See entries under "gross national income" and additional sources below.
Wage and salary disbursements Other labor income Proprietors' income with IVA and CCAdj Rental income of persons with CCAdj Personal dividend income	-1.0 -5.2 9 .9 -59.1	-1.4 -20.6 7.4 3.9 -43.0	12.4 -23.7 6.7 10.3 -61.2	3,889.8 392.9 551.2 158.2 260.3	regulatory agency and public financial statements data on dividends for 1997. The revisions also reflect a methodological improvement affecting the treatment of capital gains distributions of regulated investment companies, which resulted in downward revisions of \$28.5 bil-
Personal interest income Net interest Domestic business Rest of the world Net interest paid by government Federal State and local Interest paid by persons Transfer payments to persons	-14.0 -4.5 -14.2 9.6 -8.5 0 -8.6 9	-16.3 -6.5 -16.8 10.4 -8.3 1.3 -9.6 -1.6	-21.3 -16.7 -28.2 11.6 -11.3 .9 -12.2 6.7 -10.7	747.3 432.0 535.9 -103.9 153.8 231.2 -77.4 161.5 1,110.4	lion for 1995, \$49.5 billion for 1996, and \$61.5 billion for 1997. See entries under "net interest." See entries under "net interest." See entries under "net interest."
Of which: From government Federal	.1 5	5 .8	-10.8 -3.1	1,083.3 779.2	Revised FY 1997 Federal budget data for 1996; preliminary FY 1998 Federal Budget data for 1997.
State and local Of which:	.6	-1.3	-7.7	304.1	
Medical care	0	0	-5.9	165.1	New Health Care Financing Administration tabulations for 1997.
Less: Personal contributions for social insuranceOf which: Federal	.5	0 2	2.5 2.1	326.2 303.0	employer contributions to the unemployment insurance trust fund for 1997; Monthly Treasury Statement contributions to the unemployment trust fund for 1997; Monthly Treasury State-
Less: Personal tax and nontax payments	1 .3	3.6 .3	.3 -5.3	989.0 769.1	ment data on contributions to the military retirement fund for 1997. Social Security Administration taxable wage data for 1997; Treasury Department personal income tax collections data for 1996 and 1997.
State and local	5	3.3	5.6	219.9	
Equals: Disposable personal income	-78.7	-73.6	-90.1	5,795.1	
Less: Personal outlays Personal consumption expenditures Interest paid by persons Equals: Personal saving	-3.9 -3.8 9 -74.8	7.4 8.1 –1.6 –81.1	15.6 7.9 6.7 –105.7	5,674.1 5,493.7 161.5 121.0	See entries under "personal consumption expenditures." See entries under "net interest."

^{1.} In these descriptions, "new" indicates this is the first time that data from the specific source are being incor-

^{1.} In these descriptions, "new" indicates this is the first time that data from the specific source are being incorporated into the component estimate for the given year and "revised" indicates that data from the specific source were incorporated previously and now revised data from that source are being incorporated.
2. The statistical discrepancy is gross national product (GNP) less gross national income (GNI); it is also the difference between gross domestic product (GDP) and gross domestic income (GDI), which is GNI less net receipts of factor income. The statistical discrepancy arises because the product-side measures of GNP and GDP are estimated independently from the income-side measures of GNI and GDI.
3. Net interest is the sum of monetary interest paid by domestic business and by the rest of the world and imputed interest paid by domestic financial corporate business, less monetary interest received by domestic business and by the rest of the world.

Bureau of Economic Analysis

BLS Bureau of Labor Statistics

CCAdj Capital consumption adjustment Department of Labor

FY Fiscal year IRS Internal Revenue Service

IVA Inventory valuation adjustment USDA U.S. Department of Agriculture

Not elsewhere classified

\$4.2 billion, or 0.1 percent, for 1995; \$25.6 billion, or 0.3 percent, for 1996; and \$31.0 billion, or 0.4 percent, for 1997. These revisions are about average in comparison with recent annual NIPA revisions.

Among the major components, for 1995, upward revisions to nonresidential producers' durable equipment (PDE) and to net exports of goods and services more than offset a downward revision to personal consumption expenditures (PCE) for services. For 1996, upward revisions to PCE for goods, to change in business inventories, to PDE, to exports of goods and services, and to residential investment more than offset a downward revision to PCE for services. For 1997, upward revisions to PCE for goods, to nonresidential structures, to exports of goods and services, to State and local government consumption expenditures and gross investment, and to PDE more than offset downward revisions to PCE for services and to Federal Government consumption expenditures and gross investment.

PCE for goods.—PCE for goods was revised up for all 3 years: \$0.3 billion for 1995, \$13.3 billion for 1996, and \$22.3 billion for 1997. For 1996 and 1997, the revisions were primarily accounted for by "goods other than motor vehicles and parts" and resulted from the incorporation of revised annual retail sales data for 1995 and 1996 and revised monthly sales data for 1997 from the Census Bureau. The largest upward revisions were to furniture and household equipment and to "other durable goods" for 1995–97 and to food for 1997; food was revised down for 1995 and 1996.

Motor vehicles and parts was revised up for all 3 years: \$0.6 billion for 1995, \$3.5 billion for 1996, and \$6.1 billion for 1997. For 1996 and 1997, the revisions reflected upward revisions to "other motor vehicles," and for 1997, the revision also reflected an upward revision to net purchases of used autos. The revisions to "other motor vehicles" were primarily accounted for by revisions to purchases of new trucks; for 1996, the revision reflected the incorporation of product shipments data from the Census Bureau annual survey of manufactures and revised exports and imports data from the annual revision of BEA's balance of payments accounts (BPA's), and for 1997, the revision reflected new estimates of average expenditures for light trucks (see the section "Changes in Methodology"). The revision to net purchases of used autos reflected the incorporation of new trade source data on the stock of autos held by consumers.

PCE for services.—PCE for services was revised down for all 3 years: \$4.2 billion for 1995, \$5.2 billion for 1996, and \$14.4 billion for 1997. For 1995, downward revisions to household operation services and to "other services" more than offset an upward revision to medical care services. For 1996, downward revisions to household operation, to medical care, and to "other services" more than offset an upward revision to transportation services. For 1997, downward revisions to medical care and to "other services" more than offset upward revisions to transportation services and to housing services.

The downward revision to household operation services for 1995 was primarily accounted for by a downward revision to telephone and telegraph services, reflecting revised Census Bureau annual communications survey data on residential and nonresidential long-distance service revenue. For 1996, the downward revision to household operation services was more than accounted for by a downward revision to water and sanitary services, reflecting new and revised data from Census Bureau surveys of State and local governments.

For medical care services, the upward revision for 1995 reflected an upward revision to health insurance that more than offset a downward revision to nonprofit hospitals. For 1996, a downward revision to nonprofit hospitals more than offset an upward revision to health insurance. For 1997, the downward revision was mostly accounted for by a downward revision to nonprofit hospitals, but health insurance was also revised down. For 1995, the upward revision to health insurance—measured as premiums minus benefits—reflected revised estimates of benefits based on Health Care Financing Administration (HCFA) data. For 1996, the upward revision reflected revised estimates of premiums based on BLS data on employer costs for health insurance and revised estimates of benefits based on preliminary HCFA data. For 1997, the downward revision primarily reflected estimated premiums based on BLS data on employer costs for health insurance. For all 3 years, the downward revisions to nonprofit hospitals were based on newly incorporated trade source expense data.

The downward revision to "other services" for 1995 was widespread among its components, reflecting the incorporation of new and revised data from regular sources. For 1996 and 1997, the downward revisions to "other services" were more than accounted for by downward revisions to personal business services and to recreation services. For 1996, the revision to personal

business services reflected downward revisions to "services furnished without payment by financial intermediaries except life insurance carriers and private noninsured pension plans" and to "expense of handling life insurance"; both revisions reflected newly incorporated data from regular sources. For 1997, the revision to personal business services reflected downward revisions to "expense of handling life insurance" and to legal services that more than offset an upward revision to "services furnished without payment by financial intermediaries except life insurance carriers and private noninsured pension plans"—again reflecting newly incorporated data from regular sources.

The upward revisions to transportation services for 1996 and 1997 primarily reflected upward revisions to "repair, greasing, washing, parking, storage, rental, and leasing"—particularly to motor vehicle leasing, reflecting newly available trade source data (see the section "Changes in Methodology").

The upward revision to housing services for 1997 was accounted for by an upward revision to owner-occupied dwellings, reflecting the incorporation of Census Bureau current population survey data on housing units.

Nonresidential structures.—Nonresidential structures was revised up for all 3 years: \$0.7 billion for 1995, \$1.7 billion for 1996, and \$10.0 billion for 1997. For 1997, the revision was mostly accounted for by an upward revision to petroleum and natural gas exploration, reflecting newly incorporated trade source data on drilling footage and newly incorporated prices that are used to calculate the current-dollar estimates from the real estimates obtained by quantity extrapolation (see the section "Changes in Methodology"). Commercial structures was also revised up, reflecting the incorporation of revised Census Bureau data on the value of construction put in place.

Nonresidential producers' durable equipment (PDE).—Nonresidential PDE was revised up for all 3 years: \$4.0 billion for 1995, \$4.8 billion for 1996, and \$3.8 billion for 1997. For all 3 years, the upward revisions were widespread among the components of PDE. For 1995, the largest revision

was to industrial equipment, reflecting revised product shipments data from the Census Bureau annual survey of manufactures. For 1996 and 1997, upward revisions to industrial equipment and to "other equipment" were partly offset by a downward revision to computers and peripheral equipment; these revisions reflected the incorporation of product shipments data from the Census Bureau annual survey of manufactures for 1996 and revised Census Bureau monthly industry shipments data for 1997. For 1997, an upward revision to transportation and related equipment reflected an upward revision to trucks, buses, and truck trailers that more than offset a downward revision to autos: these revisions reflected the incorporation of new data on prices and optional equipment from trade sources (see the section "Changes in Methodology").

Residential fixed investment.—Residential fixed investment was revised down \$0.3 billion for 1995, up \$2.6 billion for 1996, and up \$0.7 billion for 1997. For 1996, the revision was accounted for by "improvements," reflecting revised data from the BLS consumer expenditures survey and from the Census Bureau landlord survey.

Change in business inventories (CBI).—The CBI was revised up \$0.6 billion for 1995, up \$6.2 billion for 1996, and down \$1.0 billion for 1997. The change in farm inventories was revised down \$1.4 billion for 1995, up \$4.7 billion for 1996, and down \$2.4 billion for 1997; the revisions reflected newly incorporated data from the U.S. Department of Agriculture.

The change in nonfarm inventories was revised up for all 3 years: \$2.0 billion for 1995, \$1.5 billion for 1996, and \$1.4 billion for 1997.

For 1995 and 1996, upward revisions to the change in book value for manufacturing and for retail trade more than offset downward revisions to the change in book value for industries "other than manufacturing and trade." The upward revision to the change in book value for manufacturing reflected newly incorporated data on inventory book values from the Census Bureau annual survey of manufactures. The upward revision to the change in book value for retail trade reflected newly incorporated data on inventory book values from the Census Bureau annual retail trade survey; for 1996, the revision was more than accounted for by inventories of retail automotive dealers. The downward revisions to the change in book value for industries "other than manufacturing and trade" reflected the incorporation of revised inventory data from IRS tabulations of

^{3.} This PCE category consists of imputed payments made by persons to depository institutions—that is, commercial banks, mutual savings banks, savings and loan associations, credit unions, and regulated investment companies-to purchase checking, bookkeeping, and investment services for which they do not pay an explicit service charge. For additional information, see U.S. Department of Commerce, Bureau of Economic Analysis, Personal Consumption Expenditures, Methodology Paper Series No. 6 (Washington, DC: U.S. Government Printing Office, 1990): 11-12. This publication can be found on the BEA Web site at <www.bea.doc.gov/bea/mp.htm>.

corporate tax returns for 1995 and from newly available IRS tabulations of corporate and sole proprietorship and partnership tax returns for 1996.

Net exports of goods and services.—Net exports of goods and services was revised up for all 3 years: \$2.1 billion for 1995, \$3.6 billion for 1996, and \$7.7 billion for 1997. The upward revisions for 1995 and 1996 were primarily accounted for by upward revisions to exports of services and by downward revisions to imports of services. The upward revision for 1997 was more than accounted for by an upward revision to exports of goods and services.

For all 3 years, the revisions to exports of goods primarily reflected the annual revision of the BPA's; for 1997, the upward revision to exports of services was primarily in transfers under U.S. military agency sales contracts. (For more information about the revision of the BPA's, see the section "Changes in Methodology.")

Government consumption expenditures and gross investment.—Government consumption expenditures and gross investment was revised up \$0.9 billion for 1995, down \$1.5 billion for 1996, and up \$1.9 billion for 1997.

Federal Government consumption expenditures and gross investment was revised down for all 3 years. For 1996 and 1997, the revisions were more than accounted for by downward revisions to national defense consumption expenditures, primarily to compensation of military employees, reflecting revised Federal budget data for fiscal years 1996 and 1997 and preliminary budget data for fiscal year 1998.

State and local government consumption expenditures and gross investment was revised up for all 3 years. Upward revisions to gross investment in equipment and in structures more than offset downward revisions to consumption expenditures. The revisions to equipment reflected the incorporation of new and revised data from Census Bureau surveys of State and local governments, and the revisions to structures reflected revised Census Bureau data on the value of construction put in place. The revisions to consumption expenditures were mainly to compensation of employees (primarily to employer contributions for employee retirement) and to "other services," reflecting the incorporation of data from regular sources.

Net receipts of factor income.—Net receipts of factor income from the rest of the world, which is excluded from GDP but included in gross na-

tional product, was revised up for all 3 years: \$12.3 billion for 1995, \$10.7 billion for 1996, and \$11.8 billion for 1997. For all 3 years, receipts of factor income was revised up, and payments of factor income was revised down. These revisions reflected the incorporation of the annual revision of the BPA's: For receipts of factor income, primarily data from BEA's benchmark survey of U.S. direct investment abroad for 1994 and from the Treasury Department's benchmark survey of U.S. portfolio investment abroad; for payments of factor income, primarily data from the Treasury Department's benchmark survey of foreign portfolio investment in the United States. (For more information about the revision of the BPA's. see the section "Changes in Methodology.")

Gross national product (GNP).—GNP was revised up for all 3 years: \$16.5 billion, or 0.2 percent, for 1995; \$36.3 billion, or 0.5 percent, for 1996; and \$42.8 billion, or 0.5 percent, for 1997. These revisions to GNP were larger than those to GDP, reflecting the upward revisions to net receipts of factor income.

Gross domestic income (GDI).—The revisions to GDI were small for all 3 years. GDI was revised up \$2.5 billion for 1995, down \$2.1 billion for 1996, and up \$0.8 billion for 1997.

For 1995, the revision to GDI reflected an upward revision to corporate profits with inventory valuation adjustment (IVA) and capital consumption adjustment (ccadj) that more than offset downward revisions to net interest and to supplements to wages and salaries. For 1996, the revision to gdi reflected downward revisions to supplements to wages and salaries and to net interest that more than offset upward revisions to corporate profits with IVA and CCAdj, to wage and salary accruals, and to nonfarm proprietors' income with IVA and CCAdj. For 1997, the revision to gdi reflected upward revisions to wage and salary accruals, to corporate profits with IVA and CCAdj, to nonfarm proprietors' income with IVA and ccadj, and to rental income of persons with ccadj that more than offset downward revisions to supplements to wages and salaries and to net interest.

Statistical discrepancy.—Revisions to the statistical discrepancy reflect differences between the revisions to GDP and those to GDI. For all 3 years, the revisions to GDP were larger than those to GDI, and the statistical discrepancy was revised from -\$28.2 billion to -\$26.5 billion for 1995,

from -\$59.9 billion to -\$32.2 billion for 1996, and from -\$86.0 billion to -\$55.8 billion for 1997.

Compensation of employees.—Compensation of employees was revised down for all 3 years: \$6.5 billion for 1995, \$17.9 billion for 1996, and \$16.4 billion for 1997.

For 1995, the downward revision was mostly accounted for by a downward revision to supplements to wages and salaries, primarily to other labor income. The revision to other labor income was mostly accounted for by a downward revision to pension and profit-sharing plans, which reflected newly available Department of Labor tabulations of IRS data on employer contributions to these plans. A downward revision to group health and life insurance reflected the incorporation of BLS data on employer costs for insurance.

For 1996, the downward revision to compensation of employees reflected a downward revision to supplements to wages and salaries that was partly offset by an upward revision to wage and salary accruals. The downward revision to supplements was to both other labor income and employer contributions for social insurance. The downward revision to other labor income was more than accounted for by downward revisions to pension and profit-sharing plans, which were based on IRS tabulations of tax return data on employer contributions to these plans, and to group health and life insurance, which were based on BLS data on employer costs for insurance. The downward revision to employer contributions for social insurance was for State and local social insurance funds (for employee retirement). The upward revision to wage and salary accruals was more than accounted for by an upward revision to the adjustment "wage accruals less disbursements," which reflected the use of newly available BLS tabulations of wages and salaries of employees covered by State unemployment insurance for 1997.4

For 1997, the downward revision to compensation of employees reflected a downward revision to supplements to wages and salaries that was partly offset by an upward revision to private wage and salary disbursements. Within supplements, both other labor income and employer contributions for social insurance were revised down.⁵ The revision to employer contributions

was mostly accounted for by State and local social insurance funds (for employee retirement). The upward revision to private wage and salary disbursements reflected newly available BLS tabulations of wages and salaries of employees covered by State unemployment insurance.

Proprietors' income with IVA and CCAdj.—Proprietors' income with IVA and CCAdj was revised down \$0.9 billion for 1995, up \$7.4 billion for 1996, and up \$6.7 billion for 1997. For 1996, the upward revision was mostly accounted for by nonfarm proprietors' income, and for 1997, an upward revision to nonfarm proprietors' income more than offset a downward revision to farm proprietors' income.

The revisions to farm proprietors' income primarily reflected newly incorporated information from the U.S. Department of Agriculture. The revisions to nonfarm proprietors' income primarily reflected newly incorporated IRS tabulations of sole proprietorship and partnership tax return data. The CCAdj for nonfarm proprietors' income was revised down for 1995 and 1996 and up for 1997. (The CCAdj converts depreciation as reported on income tax returns to depreciation based on the replacement cost of the fixed assets; see "Consumption of fixed capital.")

Rental income of persons with ccadj.—Rental income of persons with ccadj was revised up for all 3 years: \$0.9 billion for 1995, \$3.9 billion for 1996, and \$10.3 billion for 1997. The revisions were more than accounted for by rental income of persons (without ccadj) and resulted from downward revisions to several categories of expenses—notably, mortgage interest, property insurance, and maintenance and repairs—reflecting the incorporation of data from regular sources, and, for 1997, the incorporation of data from the Census Bureau current population survey.

Corporate profits with IVA and CCAdj.—Corporate profits with IVA and CCAdj were revised up for all 3 years: \$22.4 billion for 1995, \$14.5 billion for 1996, and \$12.9 billion for 1997. Upward revisions to the CCAdj accounted for about one-third of the revision for 1995, about two-thirds of the revision for 1996, and about one-half of the revision for 1997 (see "Consumption of fixed capital"). Most of the rest of the upward revisions for these years were accounted for by corporate profits before tax, though the IVA was also revised up.

Corporate profits before tax was revised up for all 3 years, as both domestic profits and

^{4.} For a discussion of this adjustment, see "Improved Estimates of the National Income and Product Accounts for 1959–95: Results of the Comprehensive Revision," Survey 76 (January/February 1996): 23–24.

^{5.} For 1997, the revisions cannot be attributed to the same level of component detail as those for 1995 and 1996, because for 1997, the quarterly estimates are prepared at a less detailed level.

rest-of-the-world profits were revised up. Within domestic profits, upward revisions to financial institutions accounted for almost two-thirds of the revision for 1995 and more than accounted for the revisions for 1996 and 1997. The revisions to domestic profits primarily reflected revised 1Rs tabulations of corporate tax return data for 1995, newly available tabulations for 1996, and other data from regular sources for 1997. The revisions to rest-of-the-world profits were primarily accounted for by upward revisions to receipts from U.S. investment abroad, reflecting the incorporation of the annual revision of the BPA'S.

The upward revisions to domestic profits that resulted from the incorporation of newly available source data were partly offset by improvements to the following adjustments, which convert the IRS data to a NIPA basis: The adjustment to remove capital gains from trading-account activity of security brokers and dealers and of depository institutions, which are reported as ordinary income to IRS, and the adjustment to remove amortization or depreciation of intangible assets that are not deducted in the calculation of NIPA profits. In addition, a new adjustment was made in the calculation of NIPA profits to deduct the full value of purchases of computer software that were capitalized for IRS purposes (see the section "Changes in Methodology").

Net interest.—Net interest was revised down for all 3 years: \$4.5 billion for 1995, \$6.5 billion for 1996, and \$16.7 billion for 1997.

For 1995, the downward revision was attributable to an upward revision to monetary interest received by domestic business that was partly offset by an upward revision to monetary interest paid by domestic business and by a downward revision to monetary interest received by the rest of the world. The revisions to domestic business reflected revised IRS tabulations of corporate tax return data, and the revision to the rest of the world reflected the annual revision of the BPA's.

For 1996, the downward revision was attributable to downward revisions to imputed interest paid by domestic business—primarily by life insurance carriers and private noninsured pension plans—reflecting newly incorporated regular source data, and to monetary in-

terest paid by domestic corporations, reflecting new IRS tabulations of corporate tax return data. These revisions were largely offset by a downward revision to monetary interest received by the rest of the world, reflecting the annual revision of the RPA'S

For 1997, the downward revision was attributable to the revised 1996 levels and to newly incorporated regular source data, mainly reports from financial regulatory agencies.⁷

Consumption of fixed capital (CFC).—CFC—that is, the charge for the using up of private and government fixed capital—was revised up for all 3 years: \$4.0 billion for 1995, \$1.9 billion for 1996, and \$3.9 billion for 1997. The revisions were primarily accounted for by the private component of CFC and reflected the incorporation of revised BEA estimates of fixed investment and prices. (These estimates of investment and prices are direct inputs into the calculation of both government and private net capital stocks, which are used to calculate the CFC.)

Private capital consumption allowances (CCA)—that is, tax-return-based depreciation for corporations and nonfarm proprietorships and historical-cost depreciation (using consistent service lives) for farm proprietorships, rental income of persons, and nonprofit institutions—was revised up for all 3 years: \$8.0 billion for 1995, \$9.8 billion for 1996, and \$10.1 billion for 1997. The revision for 1995 reflected revised IRS tabulations of corporate tax return data, and the revision for 1996 reflected new IRS data for corporations and for nonfarm proprietorships and partnerships. The revision for 1997 reflected revised BEA projections, which are based on attributing the amounts of fixed investment to the various tax-return-depreciation patterns and service lives. CCA for all 3 years was reduced by improved estimates of the adjustment to remove depreciation or amortization of intangible assets that are treated as either investment or intermediate inputs and by the incorporation of a new adjustment to exclude depreciation or amortization of computer software, which is treated as an intermediate input (see the section "Changes in Methodology").

Private capital consumption adjustment (CCAdj), which is derived as the difference between private CCA and private CFC, was revised up for all 3 years: \$4.0 billion for 1995, \$8.3 billion for 1996, and \$6.8 billion for 1997.

^{6.} Net interest is calculated as the sum of monetary interest paid by domestic business and by the rest of the world and imputed interest paid by domestic financial corporate business, less monetary interest received by domestic business and by the rest of the world and imputed interest received by domestic business and by the rest of the world.

^{7.} For 1997, the revision cannot be attributed to the same level of component detail as that for 1996, because for 1997, the quarterly estimates are prepared at a less detailed level.

Nonfactor incomes.—Nonfactor incomes—which comprises indirect business tax and nontax liability, business transfer payments, and subsidies less current surplus of government enterprises—was revised down \$0.8 billion for 1995, up \$5.2 billion for 1996, and up \$11.8 billion for 1997. Indirect business taxes were revised down for 1995 and up for 1996 and 1997; subsidies less current surplus of government enterprises, which is subtracted in aggregating nonfactor incomes, was revised down for all 3 years.

For 1996, the revision to indirect business taxes was due to an upward revision to State and local indirect business taxes that more than offset a downward revision to Federal indirect business taxes. For 1997, the revision to indirect business taxes was due to upward revisions to both Federal Government and State and local government indirect business taxes. The revisions to State and local indirect business taxes were mostly accounted for by sales taxes, reflecting new and revised data from Census Bureau annual surveys of State and local governments. The revisions to Federal indirect business taxes were mostly accounted for by indirect business nontaxes, reflecting newly incorporated data from the Treasury Department.

The downward revisions to subsidies less current surplus of government enterprises were more than accounted for by the Federal Government component—specifically by the current surplus of government enterprises for the Postal Service—reflecting newly incorporated financial data from the Postal Service.

National income.—National income—income that originates from production—was revised up \$11.4 billion for 1995, up \$1.5 billion for 1996, and down \$3.2 billion for 1997. These revisions reflected the previously described revisions to compensation of employees, proprietors' income, rental income of persons, corporate profits, and net interest.

Personal income and its disposition.—Personal income-income received by persons from participation in production, from government and business transfer payments, and from government interest—was revised down substantially for all 3 years: \$78.7 billion for 1995, \$70.0 billion for 1996, and \$89.9 billion for 1997. These revisions were mainly due to the redefinition of dividends affecting the treatment of capital gains distributions of regulated investment companies (mutual funds) (see the section "Changes in Methodology"). The revisions also reflected

the previously described revisions to the components of national income that are included in personal income—wage and salary disbursements, other labor income, proprietors' income, and rental income of persons—and to the components of personal income—personal dividend income and personal interest income—that are derived from related components of national income. The revisions also resulted from revisions to transfer payments to persons and to personal contributions for social insurance.

Personal dividend income—which consists of dividend income received by persons from all sources and which equals net dividends less dividends received by government—was revised down for all 3 years: \$59.1 billion for 1995, \$43.0 billion for 1996, and \$61.2 billion for 1997. These revisions primarily stemmed from the redefinition affecting dividends paid by regulated investment companies; they also reflected newly incorporated IRS tabulations of corporate tax return data, the annual revision of the BPA's, and data from public financial statements.

Personal interest income—which consists of monetary and imputed interest received by persons from all sources and which equals net interest plus interest paid by persons and interest paid by government less interest received by government—was revised down for all 3 years: \$14.0 billion for 1995, \$16.3 billion for 1996, and \$21.3 billion for 1997. These revisions reflected not only the previously described revisions to net interest, but also the revisions to net interest paid by government and to interest paid by persons. The revisions to personal interest income for 1995 and 1996 were mostly accounted for by downward revisions to net interest and to net interest paid by government; for 1997, downward revisions to net interest and to net interest paid by government were partly offset by an upward revision to interest paid by persons. The revisions to net interest paid by government were more than accounted for by revisions to State and local government interest received, reflecting new and revised data from Census Bureau surveys of State and local governments. The revision to interest paid by persons reflected revised data on consumer credit from the Federal Reserve Board.

Transfer payments to persons was revised up \$0.9 billion for 1995, was revised little for 1996, and was revised down \$10.7 billion for 1997. For 1997, the revision was mostly accounted for by a downward revision to State and local government medical care transfer payments, reflecting newly incorporated data from the Health Care Financing Administration on payments for medicaid. Federal transfer payments were also revised down, reflecting newly incorporated data on unemployment insurance payments from the Department of Labor. Personal contributions for social insurance—which is subtracted in calculating personal income—was revised up \$0.5 billion for 1995, was revised little for 1996, and was revised up \$2.5 billion for 1997.

Personal tax and nontax payments was revised down \$0.1 billion for 1995, up \$3.6 billion for 1996, and up \$0.3 billion for 1997. For 1996, the revision was primarily attributable to an upward revision to tax and nontax payments to State and local governments. For 1997, an upward revision to tax payments to State and local governments more than offset a downward revision to Federal Government tax payments. The revisions to State and local tax and nontax payments reflected new and revised data from Census Bureau surveys of State and local governments. The revision to Federal Government tax payments reflected newly incorporated data from the Treasury Department.

Reflecting the revisions to personal income and to personal tax and nontax payments, disposable personal income (DPI) was revised down for all 3 years: \$78.7 billion for 1995, \$73.6 billion for 1996, and \$90.1 billion for 1997.

Personal outlays—PCE, interest paid by persons, and personal transfer payments to the rest of the world (net)—was revised down \$3.9 billion for 1995, up \$7.4 billion for 1996, and up \$15.6 billion for 1997. For 1995, the revision was mostly accounted for by a downward revision to PCE. For 1996, the revision was more than accounted for by an upward revision to PCE. For 1997, the revision was about equally accounted for by an upward revision to PCE and an upward revision to interest paid by persons.

Personal saving—the difference between DPI and personal outlays—was revised down sharply for all 3 years: \$74.8 billion for 1995, \$81.1 billion for 1996, and \$105.7 billion for 1997. The downward revisions primarily reflected the redefinition affecting dividends paid by regulated investment companies. The personal saving rate—personal saving as a percentage of DPI—was also revised down sharply for all 3 years: From 4.8 percent to 3.4 percent for 1995, from 4.3 percent to 2.9 percent for 1996, and from 3.9 percent to 2.1 percent for 1997 (see the box "Recent Trends in the NIPA Personal Saving Rate" on page 30).

Gross saving and investment.—Gross saving was revised up for all 3 years: \$21.9 billion for 1995,

\$6.7 billion for 1996, and \$12.0 billion for 1997 (see appendix A, account 5). Gross saving as a percentage of GNP was revised up 0.3 percentage point to 16.3 percent for 1995, was unrevised at 16.0 percent for 1996, and was revised up 0.1 percentage point to 17.4 percent for 1997.

For 1995, the revision reflected upward revisions to gross private saving and to government saving. Within gross private saving, an upward revision to undistributed profits with IVA and CCAdj more than offset the downward revision to personal saving; these revisions primarily reflected the redefinition affecting dividends paid by regulated investment companies (see the section "Changes in Methodology"). The revision to government saving was mostly accounted for by an upward revision to the State and local government surplus.

For 1996 and 1997, upward revisions to the government surplus or deficit more than offset downward revisions to gross private saving. The revisions to the government deficit were mostly accounted for by upward revisions to the State and local government surplus. Within gross private saving, downward revisions to personal saving more than offset upward revisions to undistributed profits with IVA and CCAdj and to the adjustment "wage accruals less disbursements." The revisions to personal saving and undistributed profits again primarily reflected the redefinition of dividends paid by regulated investment companies.

Gross investment—the sum of gross private domestic investment, gross government investment, and net foreign investment—was revised up for all 3 years: \$23.7 billion for 1995, \$34.4 billion for 1996, and \$42.2 billion for 1997. For all 3 years, all the components were revised up.

Annual price estimates

Revisions to the chain-type price indexes result from the incorporation of newly available and revised source data, the regularly scheduled incorporation of weights for the most recent year (1997) into the chain formula, and the introduction of methodological changes that affect both the use of source data and the weights. In this annual revision, the source data for price indexes that are used for deflation and the source data that affect implicit prices were revised; the implicit prices are derived from current-dollar estimates and from the quantity data that are used

^{8.} The estimates for the first four quarters of the previous "tail" period—the third quarter of 1996 through the second quarter of 1997—have been revised to incorporate the annual weights for 1996 and 1997.

in quantity extrapolation and direct valuation. In addition, the prices used for deflation reflected updated seasonal adjustment factors.

As described in the section "Changes in Methodology," the revisions to prices reflect the introduction of geometric-mean-type consumer price indexes (CPI's) for deflation of detailed components of PCE and the introduction of a number of new price indexes for PCE, fixed investment, exports and imports, and government.

Newly available source data resulted in revisions to the implicit prices for the following components: Four types of PCE services—automobile insurance, health insurance, brokerage and investment charges, and "services furnished without payment by financial intermediaries except life insurance carriers and private noninsured pension plans"—and Federal Government and State and local government compensation of employees. The revisions to most of these prices reflected the previously discussed revisions to the corresponding current-dollar estimates.

The level of the chain-type price index for gross domestic purchases was revised down for all 3 years: 0.24 index point to 107.28 for 1995, 0.68 index point to 109.18 for 1996, and 0.84 index point to 110.92 for 1997. Reflecting these revisions in level, the annual percent increase in the index was revised down 0.2 percentage point to 2.3 percent for 1995, down 0.4 percentage point to 1.9 percent for 1996, and down 0.1 percent to 1.9 percent for 1997 (table 4). For all 3 years, the revisions to the percent change in the chain-price index for GDP were the same as those to the chain-price index for gross domestic purchases.

The largest contributor to the downward revisions to the percent change in GDP prices was the downward revision to PCE for nondurable goods. For 1996, PCE for services and State and local government consumption expenditures also were large contributors to the downward revision to gdp prices. The contribution from State and local government reflected a large downward revision to the implicit price for employee compensation, which, in turn, reflected a large downward revision to current-dollar employee compensation.

By major component of GDP, the largest downward revision was to the change in the price index for State and local government for 1996, which was revised down 1.0 percentage point, reflecting the revised data on employee compen-Prices of three major components of GDP had downward revisions of 0.4 percentage point or more for all 3 years: Prices of PCE for durable goods were revised down 0.6 percentage point for 1995, 0.5 percentage point for 1996, and 0.4 percentage point for 1997; prices of PCE for nondurable goods were revised down 0.5 percentage point for 1995, 0.6 percentage point for 1996, and 0.4 percentage point for 1997; and prices of Federal national defense were revised down o.4 percentage point for 1995, o.6 percentage point for 1996, and 0.6 percentage point for 1997. The downward revisions to prices of PCE for durable and nondurable goods primarily reflected the introduction of the geometric CPI's as deflators. The downward revisions to the prices of Federal national defense reflected revised source data and were widespread among subcomponents. The prices of residential fixed investment were revised down 0.5 percentage point for 1996 and 0.4 percentage point for 1997, reflecting the introduction of a new deflator for real estate brokers' commissions. The largest upward revision was 0.3 percentage point to the prices of nonresidential structures for 1996, reflecting a large upward revision to the implicit price of petroleum and gas well drilling and exploration, which in turn reflected a large upward revision to the current-dollar estimate.

Annual real GDP estimates

In general, revisions to real GDP reflect four factors: (1) Revisions to the current-dollar components of GDP for which chained-dollar estimates are prepared by deflation, (2) revisions to the prices used in deflation, (3) revisions to the quantities used to estimate components of real GDP by extrapolation or direct valuation, and (4) revisions resulting from the use of revised and updated weights in the calculation of real GDP.

For the GDP components for which chaineddollar estimates are prepared by extrapolation or direct valuation, the current-dollar and chaineddollar estimates are based on independent source data; consequently, the corresponding revisions are unrelated.⁹ Thus, differences between the current-dollar revisions and the chained-dollar revisions to these components are reflected as revisions to their implicit prices. In this annual revision, the revisions to the current-dollar gdp estimates are smaller than those to the chaineddollar GDP estimates, resulting in downward revisions to the implicit prices.

^{9.} For a list of these components, see table 2 in "A Guide to the NIPA's" in the March 1998 Survey, pages 62-68. An updated version of this table will be published in the September 1998 Survey.

Table 4.—Revisions to Percent Change in GDP, Real GDP, and Price Indexes (Chain-type Weights)

[Percent change from preceding period]

			1995		1996			1997		
	1994	Pre- viously published	Revised	Revision	Pre- viously published	Revised	Revision	Pre- viously published	Revised	Revision
					Current	dollars				
Gross domestic product	5.9	4.6	4.6	0	5.1	5.4	0.3	5.8	5.9	0.1
Personal consumption expenditures Durable goods Nondurable goods Services	5.8 9.3 4.2 5.9	5.1 5.0 3.3 6.1	5.0 5.4 3.2 5.9	1 .4 1 2	5.0 4.3 4.0 5.7	5.3 5.3 4.4 5.7	1.0 .4 0	5.3 3.9 3.7 6.5	5.3 4.6 4.0 6.2	0 .7 .3 3
Gross private domestic fixed investment Nonresidential Structures Producers' durable equipment Residential	10.6 9.4 4.6 11.3 13.7	6.5 9.4 8.7 9.7 3	7.0 10.1 9.1 10.6 4	.5 .7 .4 .9 1	8.2 8.1 7.3 8.4 8.5	8.6 8.3 7.8 8.5 9.5	.4 .2 .5 .1	7.7 8.4 7.0 8.9 5.8	8.1 9.2 10.7 8.7 5.2	.4 .8 3.7 2 6
Change in business inventories										
Net exports of goods and services Exports Imports	9.5 12.9	13.5 11.4	13.6 11.2	1 2	6.4 6.8	6.6 6.8		9.9 9.6	10.5 9.7	
Government consumption expenditures and gross investment Federal National defense Nondefense	2.3 -1.6 -3.2	3.2 1 -1.3	3.3 2 -1.4	. 1 1 1	3.8 2.1 2.4	3.6 1.8 1.9	- .2 3 5	3.3 .7 7	3.5 .3 –1.4 4.1	
State and local	2.1 4.9	2.4 5.4	2.3 5.6	1 .2	1.4 4.8	1.7	.3 1	3.7 4.8	5.4	.6
	Chained (1992) dollars									
Gross domestic product Personal consumption expenditures Durable goods Nondurable goods	3.5 3.3 7.1 2.9	2.0 2.4 4.0 1.6	2.3 2.7 5.0 2.0	0.3 1.0 .4	2.8 2.6 4.7 1.4	3.4 3.2 6.3 2.4	0.6 .6 1.6 1.0	3.8 3.3 5.6 1.8	3.9 3.4 6.8 2.4	0.1 .1 1.2 .6
Services	2.7	2.5	2.5	0.4	2.7	3.0	.3	3.5	3.2	3
Gross private domestic fixed investment Nonresidential Structures Producers' durable equipment Residential	8.6 8.0 1.0 11.0 10.1	9.0 4.3 10.8 -3.8	5.5 9.6 4.8 11.5 -3.8	. 4 .6 .5 .7	8.3 9.2 4.8 10.9 5.9	8.8 9.3 5.0 10.9 7.4	.5 .1 .2 0 1.5	7.9 9.9 3.6 12.5 2.7	8.3 10.7 7.1 12.1 2.5	.4 .8 3.5 4 2
Change in business inventories										
Net exports of goods and services Exports Imports	8.2 12.2	11.1 8.9	11.3 8.8		8.3 9.1	8.5 9.2		12.3 14.2	12.8 13.9	
Government consumption expenditures and gross investment Federal National defense Nondefense State and local	0 -3.8 -4.9 -1.1 2.6	0 -3.3 -4.3 -1.4 2.1	.2 -3.3 -4.0 -1.8 2.4	. 2 0 .3 4 .3	.5 -1.3 -1.5 9 1.6	1.1 -1.1 -1.3 5 2.4	. 6 .2 .2 .4 .8	. 9 -1.6 -2.9 1.2 2.4	1.3 -1.6 -3.2 1.7 3.1	. 4 0 3 .5
				C	Chain-type p	rice indexe	es			
Gross domestic product	2.4	2.5	2.3	-0.2	2.3	1.9	-0.4	2.0	1.9	-0.1
Personal consumption expenditures Durable goods Nondurable goods Services	2.4 2.0 1.3 3.1	2.6 1.0 1.7 3.5	2.3 .4 1.2 3.3	- .3 6 5 2	2.4 4 2.6 2.9	2.0 9 2.0 2.7	4 5 6 2	2.0 -1.6 1.9 2.9	1.9 -2.0 1.5 2.9	1 4 4 0
Gross private domestic fixed investment Nonresidential Structures Producers' durable equipment	1.8 1.2 3.6 .3	1.3 .4 4.2 -1.0	1.4 .5 4.1 –.9	.1 .1 1	1 -1.0 2.3 -2.3	1 9 2.6 -2.2	0 .1 .3 .1	2 -1.4 3.3 -3.1	2 -1.3 3.4 -3.0	.1
Residential Change in business inventories	3.3	3.6	3.5	1	2.4	1.9	5	3.0	2.6	4
	1.2	2.2	2.1	1	-1.8		1	-2.2	-2.0	
Imports	.6	2.2	2.2	0	-2.2	-2.2	0	-3.9	-3.7	.2
Government consumption expenditures and gross investment Federal National defense Nondefense State and local	2.3 2.3 1.8 3.3 2.3	3.3 3.3 3.1 3.9 3.2	3.1 3.2 2.7 4.1 3.1	2 1 4 .2 1	3.4 3.9 2.3 3.2	2.5 2.9 3.3 2.2 2.2	8 5 6 1 -1.0	2.4 2.4 2.5 2.3	2.2 2.0 1.8 2.4 2.2	2 4 6 1 1
Addendum: Gross domestic purchases	2.3	2.5	2.3	2	2.2	1.8	4	1.7	1.6	1

For 1995, the annual changes in PCE for goods, in PDE, and in State and local government consumption expenditures and gross investment were revised up. For 1996, the changes in most major gdp components except for nonresidential structures were revised up. For 1997, upward revisions to the changes in PCE for goods, in State and local government, in nonresidential structures, and in exports of goods and services and a downward revision to the change in imports of goods and services more than offset downward revisions to the changes in PCE for services and in cbi.

Revisions to the components of real GDP.—The annual percent change in real PCE was revised up for all 3 years: 0.3 percentage point to 2.7 percent for 1995, 0.6 percentage point to 3.2 percent for 1996, and 0.1 percentage point to 3.4 percent for 1997. For 1995, the upward revision was more than accounted for by upward revisions to PCE for durable and nondurable goods (mainly furniture and household equipment and clothing and shoes). For 1996, the upward revision was the result of widespread upward revisions to PCE for durable and nondurable goods and of an upward revision to PCE for services (mainly household operation and transportation). For 1997, the upward revision was more than accounted for by widespread upward revisions to PCE for durable and nondurable goods; PCE for services was revised down (mainly "other services" and medical care).

The change in nonresidential fixed investment was revised up for all 3 years: 0.6 percentage point to 9.6 percent for 1995, 0.1 percentage point to 9.3 percent for 1996, and 0.8 percentage point to 10.7 percent for 1997. For 1995, PDE primarily accounted for the revision. Within PDE, the upward revision was widespread; notably, an upward revision to industrial equipment was offset by a downward revision to computers and peripheral equipment. For 1997, structures more than accounted for the revision. Within structures, the largest upward revisions were to petroleum and gas well drilling and exploration and to utilities.

The change in residential investment was unrevised at -3.8 percent for 1995, was revised up 1.5 percentage points to 7.4 percent for 1996, and was revised down 0.2 percentage point to 2.5 percent for 1997. Improvements to existing structures accounted for most of the revision for 1996 and more than accounted for the revision for 1997.

The change in inventory investment was revised up \$0.4 billion (chained dollars) for 1995,

was revised up \$4.6 billion for 1996, and was revised down \$7.5 billion for 1997. For 1995, an upward revision to nonfarm inventory investment more than offset a downward revision to farm inventory investment; within nonfarm inventory investment, the largest upward revision was to manufacturing durable goods, and the largest downward revision was to "other durable goods." For 1996 and 1997, farm inventory investment more than accounted for the revisions.

The change in exports of goods and services was revised up for all 3 years: 0.2 percentage point to 11.3 percent for 1995, 0.2 percentage point to 8.5 percent for 1996, and 0.5 percentage point to 12.8 percent for 1997. For 1997, the revision was mainly accounted for by "other private services."

The change in imports of goods and services was revised down 0.1 percentage point to 8.8 percent for 1995, was revised up 0.1 percentage point to 9.2 percent for 1996, and was revised down 0.3 percentage point to 13.9 percent for 1997. The downward revision for 1997 was mostly accounted for by computers, peripherals, and parts and by travel.

The change in government consumption expenditures and gross investment was revised up for all 3 years: 0.2 percentage point to 0.2 percent for 1995, 0.6 percentage point to 1.1 percent for 1996, and 0.4 percentage point to 1.3 percent for 1997. For 1995, upward revisions to State and local investment in equipment and in structures more than offset a downward revision to State and local consumption of "other services." For 1996, an upward revision to State and local compensation of employees accounted for most of the revision. For 1997, widespread upward revisions to State and local government spending more than accounted for the revision.

Quarterly estimates

Revisions to the quarterly (and monthly) NIPA estimates reflect the revisions to the annual estimates from the newly incorporated annual source data, the incorporation of new and revised monthly and quarterly source data (including the updating of seasonal factors that are used to indicate quarterly patterns), and the introduction of changes in methodology. In this annual revision, these changes in methodology include those that affected nonfarm CBI and net exports.

In general, the quarter-to-quarter patterns of change in the principal measures of real output and prices on the revised basis are not markedly different from those on the previously published

Table 5.—GDP, Real GDP, the GDP Price Index, and the Gross Domestic Purchases Price Index: Revisions to Percent Change From Preceding Quarter

[Percent change at annual rates; based on seasonally adjusted annual rates]

		GDP		Real GDP			GI	OP price inde	ex .	Gross domestic purchases price index			
	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision	
1994:IV	6.4			3.6			2.6			2.5			
1995:I	4.2 2.3 5.2 4.5 4.7 7.7	4.3 2.3 5.3 4.9 5.7 7.3	.1 0 .1 .4 1.0 4	.9 .3 3.0 2.2 1.8 6.0	1.7 .4 3.3 2.8 3.3 6.1	.8 .1 .3 .6 1.5	3.3 2.1 2.0 2.1 2.8 1.9	2.5 2.0 1.9 2.0 2.2 1.4	8 1 1 1 6 5	3.0 2.5 1.7 1.9 2.7 1.8	2.2 2.4 1.6 1.8 2.1 1.4	8 1 1 1 6 4	
III IV	3.6 6.2	3.9 6.1	.3 1	1.0 4.3	2.1 4.2	1.1 1	2.7 1.9	1.8 1.6	9 3	2.4 2.4	1.5 2.1	9 3	
1997:I II III IV	7.4 5.2 4.6 5.2	7.2 5.6 5.4 4.2	2 .4 .8 -1.0	4.9 3.3 3.1 3.7	4.2 4.0 4.2 3.0	7 .7 1.1 7	2.4 1.8 1.4 1.4	2.8 1.7 1.2 1.1	.4 1 2 3	1.9 .8 1.3 1.4	2.2 .9 1.1 1.0	.3 .1 2 4	
1998:I	6.6	6.4	2	5.4	5.5	.1	1.2	.9	3	.1	2	3	

basis (table 5). For real GDP, the revisions to the 13 quarterly percent changes (at annual rates) averaged 0.6 percentage point (without regard to sign). The changes were revised up for 10 quarters and down for 3 quarters. With three exceptions, the quarterly percent changes in real GDP were revised less than 1.0 percentage point. For the first quarter of 1996, the percent change in real GDP was revised up 1.5 percentage points to 3.3 percent; most of the major GDP components contributed to the revision. For the third quarter of 1996, the percent change in real GDP was revised up 1.1 percentage points to 2.1 percent; PCE for services and CBI more than accounted for the revision. For the third quarter of 1997, the percent change in real GDP was revised up 1.1 percentage points to 4.2 percent; exports of goods and services and PCE for services accounted for most of the revision.

For gross domestic purchases prices, the revisions to the 13 quarterly percent changes (at annual rates) averaged 0.4 percentage point (without regard to sign). The changes were revised down for 11 quarters and up for 2 quarters. The largest revision was a downward revision of 0.9 percentage point for the third quarter of 1996; the sources of this revision were widespread.

Changes in Methodology

This section describes the changes in methodology—either in the source data or in the methods used to prepare the estimates—that were incorporated into this annual revision. ¹⁰ Several of these changes were identified as high priority items in BEA's strategic plan for maintaining and improving the Nation's economic accounts.¹¹

Autos and trucks.—In this annual revision, data on rebates collected by BLS as part of the CPI estimation of the index for new autos have been incorporated into the monthly estimates of average expenditures for autos; previously, rebates were estimated annually, based on data on rebate programs reported in Automotive News. For estimates of light trucks in PCE for durable goods and producers' durable equipment, beginning with 1997, the average value for 1996, which is based on data on shipments from the Census Bureau's annual survey of manufactures, has been extrapolated by an average of list prices by nameplate that is based on representative list prices from the Automobile Invoice Service and by unit sales by nameplate reported in Ward's Automotive Reports. The list-price average has also been used to interpolate monthly estimates for 1995 and Previously, the CPI for new trucks was used for extrapolation and interpolation of the average value of consumer purchases, and the PPI for light trucks was used for extrapolation and interpolation of the average value of business purchases.

PCE for services.—BEA has introduced improved measures of annual and of quarterly and monthly expenditures for brokerage and investment counseling, casino gambling, motor vehicle leasing, telephone services, and computer online services. The new extrapolators that are described in the following paragraphs are used to prepare

^{10.} These methodological changes update the two tables that list the principal source data and methods used to prepare the estimates of GDP. These tables were published in "A Guide to the NIPA's" in the March 1998 SURVEY, pages 49–68; updated tables will be published in the September 1998 SURVEY.

^{11.} See "Bea's Mid-Decade Strategic Plan: A Progress Report," Survey 76 (June 1996): 52-55.

the current quarterly estimates—either the advance, preliminary, or final estimates—as soon as the data become available; until then, judgmental trends continue to be used.

For brokerage and investment counseling, current-period estimates of investment advisory services of securities broker-dealers are extrapolated using quarterly Securities and Exchange Commission (SEC) data on revenues for these services; previously, a judgmental trend was used. For trust services of commercial banks, currentperiod estimates are extrapolated using data on income from fiduciary activities of insured commercial banks reported to the Federal Deposit Insurance Corporation; previously, a judgmental trend was used. For sales charges on mutual fund sales, the monthly interpolator and extrapolator, which is mutual fund sales reported by the Investment Company Institute, now excludes reinvested dividends; this change was made so that the indicator series now consists only of new sales. The quarterly interpolator and extrapolator continues to be based on revenues from SEC data, which do not include reinvested dividends.

For casino gambling, revenues from legalized gambling for States other than Nevada and New Jersey for the most recent year are now derived by extrapolating the gambling revenues reported by the State regulatory commissions for Colorado, Illinois, Indiana, Mississippi, and South Dakota. Revenues from gambling on Indian reservations for the most recent year are now extrapolated using revenues from the largest Indian gambling casino. For monthly interpolation and extrapolation, revenues for the newly introduced States are used for all gambling revenues outside of Nevada and New Jersey; previously, these revenues were interpolated and extrapolated using Nevada and New Jersey gambling revenues.

For telephone and telegraph services, the extrapolation of expenditures for local services for the most recent year and the interpolated and extrapolated quarterly estimates of local telephone services are now based on local service revenues of large telephone companies from SEC 10Q reports. Similarly, expenditures for intrastate long-distance services are now interpolated and extrapolated using long-distance revenues for these companies. Previously, total operating revenues of these companies were used for annual and quarterly interpolation and extrapolation of both local and intrastate long-distance services.

For cellular telephone services, semiannual data on revenues of cellular telephone companies reported by the Cellular Telecommunications Industry Association (CTIA) are used. Monthly interpolation is now based on the number of cellular telephone subscribers reported by the CTIA. Beginning with January 1998, extrapolation uses the product of CTIA subscribers and the CPI for cellular telephone services; previously, extrapolation and interpolation of cellular telephone services expenditures had been judgmental. Cellular interstate long-distance services are extrapolated using SEC 10Q reports on residential revenues for the largest cellular long-distance company and on long-distance revenues for the second and third largest companies.

For motor vehicle leasing, which includes automobiles and light trucks, expenditures for leasing each type of vehicle are measured as the sum of downpayments on new leases and of monthly lease payments on new and continuing leases. For 1996 and 1997, downpayments for each type of vehicle are extrapolated using the number of new personal lease registrations from R.L. Polk and Company together with average expenditures for new autos and light trucks. Monthly lease payments are extrapolated using estimates of the sum of lease payments on new and existing leases. For all leases, equal monthly payments are determined by the amortization of cumulated depreciation of the vehicle over the lease Cumulated depreciation, in real terms, is the difference between the new-vehicle value (less downpayment) and the expected residual, or lease-end, value of the vehicle. The distribution of lease terms was based on information provided by R.L. Polk, on lease-initiation values by average expenditures less estimated downpayments, and on lease-end values on depreciation schedules for used autos, determined by historical price-adjusted averages of used-to-new-price ratios for autos by age. The interest rate used to amortize the depreciation is the interest rate on new-car loans at the time of lease initiation as reported by the Federal Reserve Board. Estimated monthly lease payments were also used to interpolate the annual estimates for 1995-97 and are used to extrapolate the current-period estimates.

For 1996 and 1997, annual and quarterly expenditures for computer online services are now estimated using online service revenues from SEC 10Q reports for the two largest online services and the number of subscribers to computer online services and Internet service providers reported in *Interactive Services Report*. Beginning with January 1998, estimates are extrapolated using the product of the average number of subscribers series and the CPI for computer information

processing services. Real estimates for 1995–97 are extrapolated using the number of monthly subscribers.

Change in nonfarm business inventories (CBI).—Effective with this annual revision, a new methodology is used to compute the quarterly and monthly estimates of CBI for manufacturing and for merchant wholesale and retail trade. Inventories for these industries are reported monthly by businesses to the Census Bureau on a non-LIFO (non-last-in-first-out) ba-Sis. To estimate CBI for these industries, BEA revalues the inventories reported to the Census Bureau to a current-period replacement cost, so that CBI equals the change in the quantity of goods held in inventory valued in average prices of the period; this revaluation eliminates gains or losses that result from holding inventories when prices change.

Previously, the monthly and quarterly estimates of CBI for these industries used just the non-LIFO inventory values, whereas the annual estimates used the LIFO inventory values for those businesses that reported them on both a LIFO and non-lifo basis on the Census Bureau's annual surveys.12 BEA is now using a similar methodology for both sets of estimates that incorporates a mixture of LIFO and non-LIFO inventory valuations as reported in the most recent annual surveys. The use of the LIFO-valued inventories provides a more reliable estimate of CBI because the LIFO valuation more closely approximates current-period replacement-cost valuation. The change in methodology resulted because BEA concluded that the non-LIFO methodology introduced an unreasonable amount of volatility into estimates for industries having a large proportion of LIFO-valued inventories and products with volatile prices, such as the petroleum refining industry.

Net exports.—The major source of the NIPA estimates of foreign transactions is the U.S. balance of payments accounts (BPA'S), which are also prepared by BEA. In this year's annual BPA revision, newly available data from regular sources, including revised monthly data on foreign travelers in the United States, and from benchmark surveys conducted by BEA and by the Department of the Treasury were incorporated. Several improvements in estimating methodologies were also introduced, including the seasonal adjust-

ment of estimates for exports of complete civilian aircraft in the category "civilian aircraft, engines, and parts." In addition to the revisions to the BPA's, the NIPA's also incorporate revisions to the items that adjust for the differences between the two sets of accounts. (These differences are identified in NIPA table 4.5.)

As usual, the BPA revisions were brought into the NIPA's at their "best level," beginning with estimates for 1995; the NIPA estimates for foreign transactions for earlier years were not revised. (Revisions to the BPA's for years prior to 1995 will be incorporated in the next comprehensive NIPA revision.) As a result, there are discontinuities in the NIPA estimates from 1994 to 1995: The change in current-dollar net exports of goods and services is overstated by \$3.7 billion, and the change in current-dollar GDP is overstated by \$3.9 billion. These discontinuities are accounted for by services. For net receipts of factor income, the change is overstated by \$6.8 billion. For GNP, which includes both net exports of goods and services and net receipts of factor income, the change is overstated by \$10.7 billion.

Computer software.—In the NIPA's, business purchases of computer software that is not embedded in computer hardware are treated as intermediate inputs and are excluded from the fixed investment component of GDP. Similarly, the consumption of fixed capital component of gross domestic income (GDI) excludes depreciation of these purchases.

For tax purposes, some business purchases of computer software are capitalized and depreciated or amortized rather than expensed. To the extent that capitalization occurs, inconsistencies between the estimates of GDP and GDI will result because tabulations of IRS corporate tax return data are the principal source data for the NIPA estimates of corporate profits and of corporate capital consumption allowances (CCA).¹⁴

Largely on the basis of a detailed analysis of tax returns of large corporations, BEA determined that most business purchases of computer software are being expensed; however, to the extent that businesses are capitalizing these purchases, the NIPA estimates of CCA have been adjusted to eliminate the amount of capitalized software purchases, and the IRS profits data have been adjusted to reflect the "expense" treatment. As a result, corporate profits and the CCA were revised

^{12.} For the annual surveys, businesses that also value inventories for financial accounting or for income tax reporting purposes on a LIFO valuation basis report that information to the Census Bureau.

^{13.} See Christopher L. Bach, "U.S. International Transactions, Revised Estimates for 1986–97," Survey 78 (July 1998): 47–55.

^{14.} For the derivation of these NIPA measures from the tax return data, see NIPA tables 8.20 (for CCA) and 8.23 (for corporate profits).

down; the corporate CCAdj was also revised down by the same amount as the CCA because it is calculated as the difference between the CCA and the consumption of fixed capital, which is not based on tax return data.

Dividends.—Effective with this annual revision, dividend payments are redefined to exclude distributions that reflect capital gains income. In practice, this redefinition means that the capital gains distributions of regulated investment companies—that is, mutual funds—are excluded from dividend payments. Because of a lack of source data on other types of capital gains that are included in dividends, total dividends continue to reflect capital gains distributions, though it is believed that the remaining distributions are small relative to those of the regulated investment companies.

The rationale for the redefinition is that all identified forms of capital gains should be excluded from NIPA measures of output and income; capital gains and losses, such as holding gains on inventories, have always been excluded from the estimates of GDP and of gross domestic income. However, dividend payments that reflected capital gains income had been included because dividends were defined without regard to the source of income used to fund them. The redefinition is being made in this annual NIPA revision rather than in the next comprehensive revision, as would be the usual practice, because capital gains distributions of regulated investment companies have grown rapidly in recent years and have become large enough that NIPA estimates of undistributed corporate profits were significantly understated, and the estimates of personal saving were significantly overstated.

This change affects dividend payments of regulated investment companies and the aggregates that include them—that is, NIPA personal income and disposable personal income. cause personal saving is calculated as disposable personal income less personal outlays, the redefinition reduces personal saving. because undistributed corporate profits, a component of business saving, is calculated as profits after tax less dividends, the redefinition raises undistributed corporate profits. Consequently, the redefinition does not affect gross (national) saving, because the downward revisions to personal saving are offset by the upward revisions to undistributed corporate profits. The change also does not affect corporate profits from current production (corporate profits with inventory valuation and capital consumption adjustments), because profits of regulated investment companies are calculated using receipts that are defined consistently with those of all the other corporations, which also exclude dividends and capital gains. Finally, the change does not affect either gross domestic income or GDP.

In the previously published estimates for 1997, dividends included about \$61 billion in capital gains distributions of regulated investment companies. As a result, the level of undistributed profits was understated by 30 percent, and personal saving was overstated by 37 percent. The inclusion of these dividends had overstated personal income by about 0.9 percent and the personal saving rate (the ratio of personal saving to disposable personal income) by 2.1 percentage points; as a result, the redefinition of dividends significantly reduced the personal saving rate, a rate that has fallen to near-record lows in recent years.

In the previously published estimates, the NIPA personal saving rate declined from a high of 9.1 percent in 1982 to a post-World War II low of 3.9 percent in 1997. In the revised estimates, the rate declines from 9.0 percent in 1982 to 2.1 percent in 1997, and it has declined even further in 1998. (As described in the "Business Situation" in this issue, the rate has fallen to 0.6 percent in the second quarter of 1998.) The box "Recent Trends in the NIPA Personal Saving Rate" on the following page provides a perspective on these trends in NIPA personal saving.

Federal income taxes.—The revised estimates for Federal personal tax and nontax payments (receipts) incorporate a new methodology for deriving the monthly and quarterly estimates of declarations and settlements (estimated income tax payments and final settlements) less refunds. These taxes have grown sharply and unexpectedly in recent years, and the previous methodology of preparing the monthly and quarterly estimates by interpolating, without an indicator, the annual collections data from the Department of the Treasury and the projections for the current year from the Federal Budget resulted in large revisions when the collections data replaced the projections.

The new methodology separates estimated income tax payments and final settlements into estimated taxes, final settlements, back taxes, fiduciary taxes (taxes paid by estates and trusts on income earned), and refunds. The methodology has not been changed for estimated and fiduciary taxes, which are primarily based on tax liabilities for the current year and have monthly and

Recent Trends in the NIPA Personal Saving Rate

This box discusses the historically low personal saving rate—saving as a percentage of disposable personal income—that resulted from the revisions to personal income, largely from the redefinition of dividends affecting the treatment of capital gains distributions of regulated investment companies (see "Dividends" on page 29).

In this annual revision, the personal saving rate for 1995–97 was revised down significantly, from an average of 4.3 percent to 2.8 percent. The saving rate was revised back to 1982, but the revisions were smaller (see table A). Although the revision to the personal saving rate is large for recent years, the overall trend in personal saving is not changed (chart A). The previously published personal saving rate of 3.9 percent for 1997 was already the lowest rate since 1947. The pattern in the NIPA personal saving rate is similar to that in the Federal Reserve Board's (FRB's) measure of saving, which is based on households' net acquisition of financial assets plus their net investment in tangible assets less the net increase in their liabilities. The FRB's rate is 2.4 percent in 1997, close to the revised NIPA rate of 2.1 percent, and is the lowest rate since 1946, when the series begins.

Since 1991, the year that includes the last cyclical GDP trough, the personal saving rate has declined from 5.6 percent to 2.1 percent. This decline, which reflects a faster increase in personal outlays (mainly in personal consumption expenditures) than in disposable personal income, may be attributable to the "wealth effect," which is the term used to refer to the tendency of households to increase spending in response to an increase in the value of their asset holdings. According to FRB data, nominal holding gains, primarily related to changes in stock prices, increased household net worth by

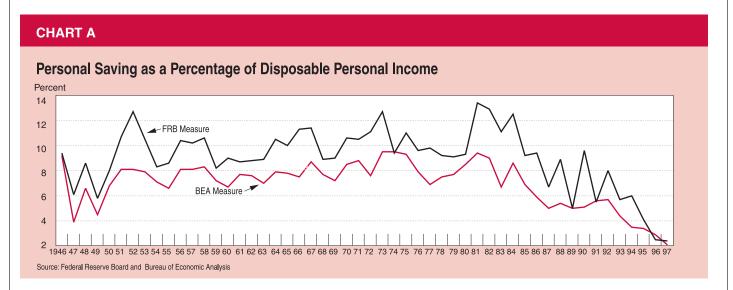
Table A.—Revisions to the Personal Saving Rate, 1982–97
[Percent]

Year	Previously published	Revised	Revision	Year	Previously published	Revised	Revision
1982 1983 1984 1985 1986 1987 1988 1989	9.1 7.0 8.7 7.2 6.5 5.3 5.5	9.0 6.7 8.6 6.9 5.9 5.0 5.4 5.0	-0.1 3 3 6 3 1	1990 1991 1992 1993 1994 1995 1996	5.3 6.0 6.2 5.1 4.2 4.8 4.3 3.9	5.1 5.6 5.7 4.4 3.5 3.4 2.9 2.1	2 4 5 7 7 -1.4 -1.8

\$1,099.2 billion in 1991, or one-fourth of disposable personal income. In 1997, these gains increased household net worth by \$3,445.2 billion, or three-fifths of disposable personal income. If these gains are compared with personal saving, the potential impact of the wealth effect is even more dramatic. The ratio of nominal holding gains to NIPA personal saving grew from 4½ in 1991 (compared with a post-World War II high of 8½ in 1947) to almost 30 in 1997. The ratio of nominal holding gains to disposable personal income in 1997 is the highest since 1946, the first year for which this measure is available.

The focus of the NIPA's is on the incomes and savings generated by current production rather than on changes in net worth, which reflect the change in wealth that results from the revaluation of existing assets. This focus on current production is embedded in the definition of GDP, which is the value of goods and services produced in the United States. Thus, GDP does not, and should not, include sales of existing assets, such as stocks or houses, or the capital gains and losses on those assets, in its measure of current production. Related NIPA measures of income and saving likewise exclude income from the sale of existing assets and are restricted to income earned from current production and saving out of current income.

These NIPA concepts and definitions are essential to the NIPA savings-investment account (see NIPA table 5.1 on page 70), which details the equality between saving and investment in the economy and shows the sectoral distribution of savings. This account is useful in analyzing the sources of external deficits and their relationship to a shortfall in private saving (or excess of consumption); it is also useful in other types of analyses, including the interaction between public and private saving, fiscal policy, and the impact of interest-rate and tax policies on saving and investment behavior. The saving-investment identity and the marginal propensity to save out of current income also play a major role in the determination of equilibrium and multiplier effects in macroeconomic models.



^{1.} The increases in the value of asset holdings may not result in increases in consumer spending in the same period that the value increases, because the increases may not be realized in that period. Comprehensive data on "realizations" of asset gains are not available, but it is likely that the gains realized in 1997 reflected value increases in earlier periods and in 1997.

quarterly patterns similar to those of current-year income.

For final settlements, back taxes, and refunds, which are primarily based on tax liabilities for previous years, the full amount of the annual changes are now recorded in the first quarter (in January) of the year, and the monthly and quarterly estimates are held at that level throughout the rest of the year.

Although monthly Department of the Treasury collections data on these taxes are available, they are not used to prepare the current estimates, because these data are very volatile and do not have an identifiable seasonal pattern. However, these monthly data are used by BEA to update the Budget projections for the current year, usually when the data for April become available. ¹⁵

New prices.—In this annual revision, new price measures are introduced into the estimates for PCE, fixed investment, exports and imports, and State and local government.

Many of the detailed PCE categories are deflated using components of the BLS consumer price index (CPI). For most of these categories, new BLS geometric-mean-type CPI's are now used in place of the fixed-weighted indexes that presently constitute the official CPI. BLS currently publishes these geometric price indexes as experimental series and plans to incorporate these indexes into the official CPI when the estimates for January 1999 are released. The categories for which the geometric-mean price indexes are used as PCE deflators are those that will switch to the use of a geometric-mean formula in the CPI; thus, fixedweighted CPI's will continue to be used for some of the other components, such as tenant- and owner-occupied rent, household utilities, and dentists.

The recent revision of the CPI item classification system, which provided more detailed CPI's for a number of service categories, led to several other changes in PCE price deflators. A newly available CPI for cellular telephone service is used to deflate the cellular telephone subcomponent of local telephone service, beginning with January 1998. For the years 1995–97, cellular telephone service is deflated using a price index developed by Jerry Hausman of the Massachusetts Institute of Technology. Previously, the CPI for local telephone service was used.

PCE for computers is deflated using a weighted average of newly available CPI's for personal computers (PC's) and peripheral equipment and for computer software and accessories; previously, a weighted average of producer price indexes (PPI's) for PC's and portable computers was used. Online services, a subcomponent of "other recreation," is deflated using a newly available CPI for computer information processing services; previously, the CPI for "other entertainment services" was used. Video cassette rental is deflated using a newly available CPI for rental of video tapes and disks.

Within "auto rental, leasing, and other," auto and truck rental and parking fees and tolls are now separately deflated using newly available CPI's for these categories. Auto leasing and truck leasing are now separately deflated using newly constructed implicit prices that reflect changes in the CPI's for new vehicles and changes in interest rates on new-car loans by auto finance companies. Previously, all components of this category were deflated with the CPI for "other automobile related fees."

Within "other professional (medical) services," home health care services and medical laboratories are deflated using newly available PPI's, and eye examinations is deflated using the CPI for eyeglasses and eye care; previously, these services were deflated using the CPI for "other professional services." Commercial and vocational schools is deflated using the CPI for technical and business school tuition; previously, a BEA composite index of input prices was used. Employment agency fees is deflated using a newly available PPI for "employment agencies, primary services"; previously, it was deflated using the CPI for personal financial services.

For fixed investment, new prices are introduced into the estimates for petroleum and gas well drilling and exploration. For the latest year, for which no cost data exist, the new price indexes are used to calculate the current-dollar estimates from the real estimates, which are obtained by quantity extrapolation. PPI's for offshore drilling of oil and gas wells and oil and gas field services are used to calculate the offshore component of petroleum and gas well drilling and exploration, and PPI's for onshore drilling and services are used to calculate the onshore component. Previously, the offshore and onshore components were not separated, and an input cost index was used.

For computers and peripheral equipment, a component of PDE, the following changes are introduced: The PPI for ink-jet printers replaces an

^{15.} For example, see the "Business Situation," Survey 78 (June 1998): 11, footnote 18

^{16.} J.A. Hausman, "Cellular Telephone, New Products and the CPI," National Bureau of Economic Research Working Paper No. 5982 (March 1997).

annual BEA price index for domestically produced ink-jet printers, beginning with 1995; the PPI for impact printers replaces an annual BEA price index for domestically produced impact printers, beginning with 1997; and the BLS import price index for PC's replaces a BEA price index for imported PC's, beginning with 1997.

Capitalized engineering services, a component of many PDE categories, is deflated using the PPI for engineering services, beginning with 1997. Previously, average weekly earnings for engineering services was used.

For residential improvements, the major replacements component is deflated by a new BEA composite price index for home maintenance and repair, beginning with 1998. The new index is composed of an unweighted average of the PPI for materials for construction, the employment cost index for construction, and the Census Bureau index for new homes sold; previously, the recently discontinued CPI for maintenance and repairs was used. The additions and alterations component is deflated by a weighted average of the new composite price index for home maintenance and repair and the Census Bureau price index for single-family houses under construction. Brokers' commissions, another component of residential structures, is deflated using the PPI for real estate brokerage, beginning with 1996; previously, quantity extrapolation was used.

New price indexes are also used to deflate a number of components of exports and imports. BLS import price indexes replace PPI's for imports of ocean liner freight services and for air freight services, beginning with 1995. The BLS export price index for air transportation (freight) services replaces the PPI for scheduled air cargo transportation (freight), beginning with 1997. The PPI for "trucking services, except local" is incorporated into the deflator for rail and trucking transportation (freight) services for both exports and imports, beginning with 1995; previously, only the PPI for rail transportation was used. The PPI for pharmaceutical preparations is incorporated into the deflator for the imports component of the territorial adjustment for Puerto Rico, beginning with 1995. The PPI for ink-jet printers replaces the annual BEA price

Data Availability

NIPA estimates beginning with 1929, including the revised estimates presented in this article, are available on computer diskettes for \$40.00 (product number NDN-0139). To order using MasterCard or Visa, call the BEA Order Desk at 1-800-704-0415 (outside the United States, call 202-606-9666). To order by mail, send a check payable to "Bureau of Economic Analysis BE-53" to the BEA Order Desk, BE-53, Bureau of Economic Analysis, Washington, DC 20230.

These estimates are also available through the Commerce Department's STAT-USA Economic Bulletin Board and Internet services; for information, call 202–482–1986, or access the STAT-USA Internet site at <www.stat-usa.gov>.

The major NIPA estimates are also available on BEA'S Web site at <www.bea.doc.gov>.

index for exported ink-jet printers for 1995 and 1996. Beginning with 1997, imports of personal computers is deflated using a newly available import price index for personal computers, and imports of computer printers is deflated using the import price index for printers. In addition, beginning with 1997, BLS export price indexes are used to deflate all five components of exports of computers.

State and local government consumption expenditures for "other professional services" is deflated by a price index for "other professional services," beginning with 1997. The index is composed of an unweighted average of the PPI's for advertising agencies; for legal services; for engineering design, analysis, and consulting services; for architectural design, analysis, and consulting services; and for accounting, auditing, and bookkeeping services. Previously, the CPI for medical services was used.

Beginning with 1995, State and local government consumption expenditures for maintenance and repair services is deflated using the implicit price deflator for new State and local construction, and maintenance and repair goods is deflated using the PPI for materials for construction. Previously, two detailed CPI's for maintenance and repairs were used.

Appendix A follows.

Appendix A.—Revisions to the National Income and Product Accounts

[Billions of dollars]

- [Dillion]	- Conditor		I			
	199	95	19	96	199	97
	Revised	Revision	Revised	Revision	Revised	Revision
		Account 1	-National Inco	me and Produ	ict Account	
Compensation of employees	4,208.9	-6.5	4,409.0	-17.9	4,687.2	-16.4
Wage and salary accruals	3,441.9	7	3,640.4	6.8	3,893.6	15.0
Disbursements	3,428.5 13.4	-1.0	3,631.1 9.3	-1.4 8.2	3,889.8 3.7	12.4 2.5
Wage accruals less disbursements	767.0	.3 -5.9	768.6	-24.7	793.7	-31.3
Employer contributions for social insurance	365.3	7	381.7	-4.0	400.7	-7.7
Other labor income	401.6	-5.2	387.0	-20.6	392.9	-23.7
Proprietors' income with inventory valuation and capital consumption adjustments	488.1	9	527.7	7.4	551.2	6.7
Rental income of persons with capital consumption adjustment	133.7	.9	150.2	3.9	158.2	10.3
Corporate profits with inventory valuation and capital consumption adjustments	672.4	22.4	750.4	14.5	817.9	12.9
Corporate profits with inventory valuation adjustment	613.0	14.6	679.0	4.9	741.2	5.9
Profits before tax Profits tax liability	635.6 211.0	13.0 -2.2	680.2 226.1	3.6 -2.9	734.4 246.1	4.6 -3.3
Profits after tax	424.6	15.2	454.1	6.5	488.3	-3.3 8.0
Dividends	205.3	-59.1	261.9	-42.9	275.1	-61.0
Undistributed profits	219.3	74.3	192.3	49.5	213.2	69.0
Inventory valuation adjustment	-22.6	1.7	-1.2	1.3	6.9	1.4
Capital consumption adjustment	59.4	7.8	71.4	9.6	76.6	6.9
Net interest National income	420.6 5,923.7	-4.5 11.4	418.6 6,256.0	-6.5 1.5	432.0 6,646.5	-16.7 - 3.2
	, í		,		,	
Business transfer payments	32.9 25.8	.7	33.8 26.4	.2	35.1 27.2	2
To persons	7.1	.8 2	7.3	.4 3	8.0	.1 2
Indirect business tax and nontax liability	581.2	-1.6	606.4	5 1.6	627.2	7.8
Less: Subsidies less current surplus of government enterprises	25.1	1	22.0	-3.4	21.9	-4.2
Consumption of fixed capital	800.8	4.0	832.0	1.9	871.8	3.9
Private	657.0	4.0	684.3	1.6	720.2	3.3
Government	143.8	0	147.7	.3	151.6	.6
General government	122.4 21.4	0	125.3 22.4	.2 .1	128.3 23.4	.5 .1
Gross national income	7,313.6	14.7	7,706.2	8.6	8,158.7	12.5
Less: Receipts of factor income from the rest of the world	225.2	2.4	235.5	1.2	265.5	3.3
Plus: Payments of factor income to the rest of the world	207.6	-9.9	223.1	-9.5	273.5	-8.5
Gross domestic income	7,296.1	2.5	7,693.8	-2.1	8,166.7	.8
Statistical discrepancy	-26.5	1.7	-32.2	27.7	-55.8	30.2
GROSS DOMESTIC PRODUCT	7,269.6	4.2	7,661.6	25.6	8,110.9	31.0
Personal consumption expenditures	4,953.9	-3.8	5,215.7	8.1	5,493.7	7.9
Durable goods	611.0	2.5	643.3	8.8	673.0	13.7
Nondurable goods Services	1,473.6 2,869.2	-2.2 -4.2	1,539.2 3,033.2	4.5 -5.2	1,600.6 3,220.1	8.6 -14.4
		7.2	·			
Gross private domestic investment	1,043.2	5.0	1,131.9	15.4	1,256.0	13.5
Fixed investment	1,012.5	4.4	1,099.8	9.1	1,188.6	14.5
Nonresidential Structures	727.7 201.3	4.7 .7	787.9 216.9	6.5 1.7	860.7 240.2	13.8 10.0
Producers' durable equipment	526.4	4.0	571.0	4.8	620.5	3.8
Residential	284.8	3	311.8	2.6	327.9	.7
Change in business inventories	30.7	.6	32.1	6.2	67.4	-1.0
Net exports of goods and services	-83.9	2.1	-91.2	3.6	-93.4	7.7
Exports	819.4	1.0	873.8	2.9	965.4	8.3
Imports	903.3	-1.2	965.0	7	1,058.8	.7
·	1,356.4			-1.5		
Government consumption expenditures and gross investment	1,356.4	.9 5	1,405.2 518.4	-1.5 -1.6	1,454.6 520.2	1.9 -3.6
National defense	344.4	3 2	351.0	-1.8 -1.8	346.0	-3.0 -4.3
Nondefense	164.7	3	167.4	.1	174.3	.8
State and local	847.3	1.3	886.8	.1	934.4	5.5
GROSS DOMESTIC PRODUCT	7,269.6	4.2	7,661.6	25.6	8,110.9	31.0
	1		I			

Appendix A.—Revisions to the National Income and Product Accounts—Continued

[Billions of dollars]

	199	95	199	96	199	7
	Revised	Revision	Revised	Revision	Revised	Revision
		Account 2	-Personal Inc	ome and Outla	ay Account	
Personal tax and nontax payments	795.0	-0.1	890.5	3.6	989.0	0.3
Personal outlays Personal consumption expenditures Interest paid by persons Personal transfer payments to the rest of the world (net)	5,097.2 4,953.9 127.6 15.7	-3.9 -3.8 9 .9	5,376.2 5,215.7 143.6 16.9	7.4 8.1 -1.6 1.0	5,674.1 5,493.7 161.5 18.9	15.6 7.9 6.7 1.0
Personal saving	179.8	-74.8	158.5	-81.1	121.0	-105.7
PERSONAL TAXES, OUTLAYS, AND SAVING	6,072.1	-78.7	6,425.2	-70.0	6,784.0	-89.9
Wage and salary disbursements	3,428.5	-1.0	3,631.1	-1.4	3,889.8	12.4
Other labor income	401.6	-5.2	387.0	-20.6	392.9	-23.7
Proprietors' income with inventory valuation and capital consumption adjustments	488.1	9	527.7	7.4	551.2	6.7
Rental income of persons with capital consumption adjustment	133.7	.9	150.2	3.9	158.2	10.3
Personal dividend income Dividends Less: Dividends received by government	192.8 205.3 12.5	–59.1 –59.1 0	248.2 261.9 13.7	-43.0 -42.9 .1	260.3 275.1 14.8	-61.2 -61.0 .2
Personal interest income Net interest paid by government Interest paid by persons	704.9 420.6 156.7 127.6	-14.0 -4.5 -8.5 9	719.4 418.6 157.1 143.6	-16.3 -6.5 -8.3 -1.6	747.3 432.0 153.8 161.5	-21.3 -16.7 -11.3 6.7
Transfer payments to persons From business From government	1,015.9 25.8 990.1	.9 .8 .1	1,068.0 26.4 1,041.5	0 .4 5	1,110.4 27.2 1,083.3	-10.7 .1 -10.8
Less: Personal contributions for social insurance	293.6	.5	306.3	0	326.2	2.5
PERSONAL INCOME	6,072.1	-78.7	6,425.2	-70.0	6,784.0	-89.9
	Acc	count 3.—Gov	ernment Recei	pts and Exper	nditures Accou	ınt
Consumption expenditures	1,138.1	-4.0	1,175.5	-6.9	1,219.2	-7.6
Transfer payments	1,001.5 990.1 11.4	0 .1 –.1	1,057.7 1,041.5 16.2	6 5 1	1,096.0 1,083.3 12.7	-11.3 -10.8 5
Net interest paid	156.7	-8.5	157.1	-8.3	153.8	-11.3
Less: Dividends received by government	12.5	0	13.7	.1	14.8	.2
Subsidies less current surplus of government enterprises	25.1	1	22.0	-3.4	21.9	-4.2
Less: Wage accruals less disbursements	0	0	0	0	0	0
Current surplus or deficit (–), national income and product accounts	-62.7 -174.4 111.7	8.7 0 8.6	12.3 -110.3 122.6	17.4 .2 17.3	113.1 -21.1 134.1	34.1 7.7 26.3
GOVERNMENT CURRENT EXPENDITURES AND SURPLUS	2,246.1	-4.1	2,411.0	-1.7	2,589.2	4
Personal tax and nontax payments	795.0	1	890.5	3.6	989.0	.3
Corporate profits tax liability	211.0	-2.2	226.1	-2.9	246.1	-3.3
Indirect business tax and nontax liability	581.2	-1.6	606.4	1.6	627.2	7.8
Contributions for social insurance Employer Personal	658.9 365.3 293.6	2 7 .5	688.0 381.7 306.3	-4.0 -4.0 0	727.0 400.7 326.2	-5.1 -7.7 2.5
GOVERNMENT RECEIPTS	2,246.1	-4.1	2,411.0	-1.7	2,589.2	4
OVERNMENT RECEIPTO	2,240.1	-4.1	4,411.0	-1.7	2,303.2	4

Appendix A.—Revisions to the National Income and Product Accounts—Continued

[Billions of dollars]

	1995		1996		1997	
	Revised	Revision	Revised	Revision	Revised	Revision
	Account 4.—Foreign Transactions Account					
Exports of goods and services	819.4	1.0	873.8	2.9	965.4	8.3
Receipts of factor income	225.2	2.4	235.5	1.2	265.5	3.3
Capital grants received by the United States (net)	0	0	0	0	0	0
RECEIPTS FROM THE REST OF THE WORLD	1,044.6	3.4	1,109.3	4.2	1,230.9	11.6
Imports of goods and services	903.3	-1.2	965.0	7	1,058.8	.7
Payments of factor income	207.6	-9.9	223.1	-9.5	273.5	-8.5
Transfer payments to the rest of the world (net) From persons (net) From government (net) From business	34.2 15.7 11.4 7.1	.6 .9 1 2	40.4 16.9 16.2 7.3	.6 1.0 1 3	39.5 18.9 12.7 8.0	.1 1.0 5 2
Net foreign investment	-100.6	13.8	-119.2	13.7	-140.9	19.3
PAYMENTS TO THE REST OF THE WORLD	1,044.6	3.4	1,109.3	4.2	1,230.9	11.6
	Account 5.—Gross Saving and Investment Account					
Gross private domestic investment	1,043.2	5.0	1,131.9	15.4	1,256.0	13.5
Gross government investment	218.3	4.9	229.7	5.4	235.4	9.4
Net foreign investment	-100.6	13.8	-119.2	13.7	-140.9	19.3
GROSS INVESTMENT	1,160.9	23.7	1,242.3	34.4	1,350.5	42.2
Personal saving	179.8	-74.8	158.5	-81.1	121.0	-105.7
Wage accruals less disbursements (private)	13.4	.3	9.3	8.2	3.7	2.5
Undistributed corporate profits with inventory valuation and capital consumption adjustments	256.1	83.7	262.4	60.3	296.7	77.2
Consumption of fixed capital Private Government General government Government enterprises	800.8 657.0 143.8 122.4 21.4	4.0 4.0 0 0	832.0 684.3 147.7 125.3 22.4	1.9 1.6 .3 .2 .1	871.8 720.2 151.6 128.3 23.4	3.9 3.3 .6 .5
Government current surplus or deficit (-), national income and product accounts	-62.7	8.7	12.3	17.4	113.1	34.1
Capital grants received by the United States (net)	0	0	0	0	0	0
Statistical discrepancy	-26.5	1.7	-32.2	27.7	-55.8	30.2
GROSS SAVING AND STATISTICAL DISCREPANCY	1,160.9	23.7	1,242.3	34.4	1,350.5	42.2